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ABSTRACT

The effectiveness of Health Services Occupation (HSO) programs was studied by an assessment of the academic achievement and attitudes of current students and by a followup survey of program graduates. Data were collected and analyzed from three classes of program graduates (1979-81) and current students (grades 9 through 12) at four schools. In general, while current students and program graduates indicated a high level of satisfaction with HSO programs, other outcome indicators pointed to major problems with program goals and objectives and curriculum structure. Counselors and HSO staff found it difficult to recruit adequate numbers of students. Students received little formal counseling regarding shop choice. There were no achievement score differences between HSO and non-HSO students, and achievement levels remained consistent in grades 9 through 12. The HSO curriculum was, in fact, a nurses' aide curriculum and did not meet student needs. A low percentage of graduates were actively pursuing health careers, and only 53 percent expected to be employed in a health occupation in 5 years. A large number of graduates had received no job placement assistance. Large numbers of HSO and non-HSO students believed HSO fields were more suited to women. (Appendixes include survey instruments, advisory committee minutes, and data tables.) (YLB)

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A STUDY OF THE PERFORMANCE AND SATISFACTION OF CURRENT STUDENTS AND GRADUATES FROM HSO PROGRAMS IN VOCATIONAL-TECHNICAL SCHOOLS

FINAL REPORT

EASTCONN
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PREPARED FOR

CONNECTICUT STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL AND ADULT EDUCATION
BUREAU OF VOCATIONAL PROGRAM PLANNING AND DEVELOPMENT
HARTFORD, CONNECTICUT 06115

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PREFACE

This research project, initiated in the fall of 1981, was a study of graduates from the years 1979, 1980 and 1981 and students currently enrolled in Health Services Occupations programs in four Regional Vocational-Technical high schools in Connecticut. The study was designed and conducted by EASTCONN Regional Education Service Center, under contract with the Bureau of Vocational Program Planning and Development, Connecticut State Department of Education. The study collected and analyzed data from three classes HSO program graduates (1979-1981) and current students (9th-12th grade) Graduates were asked general demographic questions, their perceptions of of the quality of the HSO program, current job and educational activities, and future plans. Current students were asked similar questions, excluding items dealing with jobs and post-secondary educational activities.

The data collected in this study, and the conclusions drawn, are intended to provide program planners with the information they need to restructure programs and/or curricula, provide effective guidance for current and prospective students, and to generally improve the Health Services Occupations programs to address individual student needs and the labor market needs in Connecticut.

The following chapters include a discussion of the methodological approach, the results and conclusions of the study.

ABSTRACT

A STUDY OF THE PERFORMANCE AND SATISFACTION OF CURRENT STUDENTS AND GRADUATES FROM HSO PROGRAMS IN VOCATIONAL-TECHNICAL SCHOOLS,

This study was designed to answer questions about the effectiveness of Health Services Occupation (HSO) programs by assessing the academic achievement and attitudes of current students and by a follow-up survey of program graduates. The study included an analysis of recruitment strategies, the orientation process and the curriculum structure and content in language, mathematics and the HSO shop curriculum. The study compared the achievement of current HSO students with other students currently enrolled in the same Vocational-Technical schools in other vocational specialty areas. The follow-up survey of graduates solicited retrospective information from graduates regarding their attitudes about the HSO program as well as their subsequent educational/vocational activities.

Five specific objectives were identified. These included:

1. To examine recruitment and counseling strategies employed prior to student selection of major program areas during the ninth grade.
2a. To determine if HSO students differ from non-HSO students in reading and math skills at the point of entry of HSO students into the HSO program.
 b. To determine if HSO students differ from non-HSO students in reading and math skills as they progress through high school grades 10-12.
3. To examine the structure and content of the HSO curriculum to determine its relevance for the preparation of students for health care careers.
4. To conduct a follow-up survey of HSO graduates to examine their perceptions with regard to recruitment processes, curriculum relevance, and vocational preparation in the HSO curriculum as well as their current vocational activities and future plans.
5. To identify barriers which restrict male students from participating in the HSO program.

Methods

The evaluation of the HSO program incorporated both qualitative and quantitative techniques. To accomplish objective 1 interviews were conducted with the Directors of Guidance and HSO Department Heads from each of the four schools included in the study. In addition, procedural documents were supplied by each school, and a questionnaire was developed and administered to all current HSO students and a random proportionate sample of 50 non-HSO students from each school. Data analyses consisted of descriptive breakdowns of student responses (percentages) by school. Students who indicated prior to entering

grade 9 that HSO was their first choice for a shop but at the end of the 9th grade exploratory period did not end up in the HSO program were also surveyed. For objective 2, all grade 9 files were examined so that the Spring grade 8 reading and math scores could be recorded from the Basic Skills Inventory for HSO and non-HSO students. Differences between the groups were examined using t-tests (objective 2a). Objective 2b was examined by comparing the percentages of HSO and non-HSO students in various achievement tracks within a particular school as they progressed through grades 9-12. Evaluation procedures for objective 3 consisted of: reviewing curriculum guidelines in light of the stated goals of the HSO program; discussions with HSO Department Heads, Guidance Directors and the Advisory Committee; a review of HSO curricula materials from other states; and a review of current literature on national and local trends in the delivery of health care services. Also, items on both the student and graduates surveys addressed the issue of curriculum relevance. Objective 4 used a follow-up survey that was developed and mailed to all HSO graduates from the classes of '79, '80 and '81. Descriptive statistics were employed to summarize the data. Objective 5 was accomplished through discussions held with school guidance and HSO staff, as well as items included in the student survey.

Results

In general, while current students and program graduates indicated a high level of satisfaction with the HSO programs, other outcome indicators point to major problem areas with respect to program goals and objectives and the structure of the curriculum. Objective 1: because of the general nature of the HSO curriculum counselors and HSO staff found it difficult to recruit adequate numbers of students. In addition, it was determined that students received little formal counseling regarding shop choice. Objective 2: there was no achievement score differences (p .05) between HSO and non-HSO students, and achievement levels remained consistent throughout grades 9-12. Objective 3: what was called a Health Services Occupation curriculum, was in fact a nurse aide curriculum. The existing program is not meeting the needs of the population being served. Objective 4: a low percentage of graduates were actively pursuing health careers, and only 53% expected to be employed in a health occupation in five years. It was alarming to note the number of graduates that had received no job placement assistance from school counselors or HSO staff. Objective 5: large number of HSO and non-HSO students believe that health service jobs are more suited to women.

Implications

1. Vocational educational programs must be aimed at specific occupations, including HSO programs.
2. HSO programs must target a specific set of clinical skills which students must acquire.
3. V-T counselors should play a major role in initial post-high school job placement.
4. There is a need for additional career counseling aimed at dispelling myths and stereotypic images that both males and females continue to hold about health care jobs.

INTRODUCTION AND STATEMENT OF THE PROBLEM

STATEMENT OF THE PROBLEM

During the late 1960's and early 1970's, a major problem which confronted the health care fields was the great lack of trained workers. Partly in response to this labor market demand, the Connecticut State Department of Education established a new vocational specialty called Health Services Occupations (HSO) in several Regional Vocational-Technical high schools.

To be effective, any vocational education program must address two sets of needs; those of the student and those of the labor market. Ultimately the primary objective of any health occupations education program should be to prepare clinically competent practitioners.

During the 1978-79 school year, a total of 96 11th and 12th grade students were enrolled in health services occupations programs in four regional vocational-technical schools in Connecticut (Connecticut State Department of Education, 1979). By virtue of the training received, upon graduation from high school these students should be in the best position to secure entry into various post-secondary programs in health occupations and/or enter the labor market in a position consistent with their vocational training.

During the last few years, HSO programs have been criticized on a number of counts by various persons both within and without the Vocational-Technical schools. "The program lacks clear vocational education objectives", "It is hard to recruit students into the HSO programs because students know that to get a good job they will have to get further post-secondary education and vocational students aren't oriented in that direction", and "The HSO curriculum is oriented for only the brightest students.

Those who plan to become R.N.'s." These are the frequently heard criticisms leveled at HSO programs. The primary purpose of this research study was to attempt to resolve some of the questions raised regarding HSO programs. Specific research objectives are outlined in a section which follows.

RATIONALE

This research study was designed to answer some of the fundamental questions raised above and in the objectives section which follows. Through a study of the standard HSO curricula in the vocational-technical schools, the HSO students, and the impact that HSO programs have on the students, the findings should provide a solid base for improving HSO program for current and future students.

By providing accurate and timely information pertaining to the nature and content of the HSO curriculum, recruitment and orientation procedures for new students, student and graduate attitudes about the quality of the program, academic achievement of current students and post high school educational/vocational activities of graduates, we believe the goal of program improvement can be achieved.

GOALS AND OBJECTIVES

The health care occupations have been identified as a major growth area for the 1980's. Connecticut faces a critical shortage of trained nursing and allied health personnel. Factors such as the failure to attract qualified applicants, academic attrition, ineffective training programs, and dropouts from the ranks of health care personnel represent personal and career disruptions for the individuals involved, and seriously impede the ability of the health care delivery system to effectively meet societal needs.

The primary goal of this research project was to identify some of the specific problems related to the factors above. By clearly delineating the problem areas, effective solutions can be developed. To this end, five specific program objectives were outlined.

1. To examine recruitment and counseling strategies employed prior to student selection of major program areas during the ninth grade.

2a. To determine if HSO students differ from non-HSO students in reading and math skills at the point of entry of HSO students into the HSO program.

b. To determine if HSO students differ from non-HSO students in reading and math skills as they progress through high school grades 10-12.

3. To examine the structure and content of the HSO curriculm to determine its relevance for the preparation of students for health care careers.

4. To conduct a follow-up survey of HSO graduates to examine their perceptions with regard to recruitment processes, curriculum relevance, and vocational preparation in the HSO curriculum as well as their current vocational activities and future plans.

5. To identify barriers which restrict male students from participating in HSO programs.

PROJECT DESIGN

PROJECT DESIGN

Procedures and Activities

The evaluation of the HSO program incorporated both qualitative and quantitative techniques. These techniques were designed to accomplish five evaluation objectives stated earlier in this report. In this section the procedures and activities employed for each objective will be described.

Objective 1 dealt with recruitment and counseling strategies. Interviews were conducted with the Directors of Guidance from each of the four schools. Along this same line discussions were held with the Project Advisory Committee and the HSO Department Heads. In addition to receiving procedural documents supplied by each school, a survey was designed for administration to all current HSO students and a random proportionate sample of 50 Non-HSO students from each school. Development of the survey form consisted of drafting items which were then reviewed by HSO Department Heads, Directors of Guidance and the Advisory Committee. Following final revisions the school-wide shop lists were obtained from each school so that the sample could be drawn. Surveys were distributed by the Directors of Guidance to the shop teachers who distributed them to the students. Data analyses consisted of descriptive breakdowns of student responses (percentages) by school. A second survey was sent to a group of students from each school who indicated prior to entering grade 9 that HSO was their first choice for a shop but at the end of 9th grade exploratory period did not end up in the HSO program. This select group of Non-HSO students provided valuable comments regarding the HSO program.

Objective 2 dealt with reading and math differences between HSO and Non-HSO students at the point of entry into the program, and as they progress through grades 9-12. All grade 9 files were examined so that the spring grade 8 math and reading scores could be recorded from the Connecticut Vocational/Technical School Basic Skills Inventory. Differences between the groups were examined using t-tests (objective 2a). The second part of Objective 2 (2b) was examined by comparing the percentages of HSO and Non-HSO students in various achievement tracks within a particular school. Based on advice from the Advisory Committee and Guidance Department Heads, this procedure was used rather than doing additional achievement testing. Achievement tracks for grade 9 were based upon the basic skills exam. Input from teachers was used later for any needed changes in the track level assignments.

Objective 3 was concerned with the structure and content of the HSO curriculum. Evaluation procedures consisted of reviewing curriculum guidelines in light of the stated goals of the HSO program, and discussions with HSO and Guidance Department Heads, and the Project Advisory Committee. In addition, some items on both the In-School and Graduate Surveys addressed the issue of curriculum relevance.

Objective 4 dealt with the perceptions of program graduates with regard to such issues as recruitment, curriculum relevance, vocational preparation and plans. A follow-up survey was designed for review by the Department Heads, Directors of Guidance and the Advisory Committee. Following revisions the surveys were mailed to all HSO graduates from the 1979, 1980 and 1981 classes. Descriptive statistics (percentages) were employed to summarize the data.

Objective 5 dealt with barriers which restrict male students from participating in the HSO program. Discussions were held with the Directors of Guidance, Department Heads and the Advisory Committee on this issue. In addition a series of items were included in the student survey to probe the perceptions of both HSO and Non-HSO students.

PROJECT STAFF FUNCTIONS

The administration of the project was directed by a three member administrative team consisting of a principal investigator, a project manager and a senior researcher. Secretarial/clerical services were secured on a part-time basis. In addition to the project staff, a project advisory committee was selected by the project staff, with the advice and approval of the Bureau of Vocational Program Planning and Development. The advisory committee was comprised of persons having direct knowledge of and/or involvement in the programs under review. The advisory committee consisted of seven persons.

Dr. Diane LaRochelle served as the Principal Investigator for the project. Dr. LaRochelle provided the primary content expertise required for the review of the structure and content Health Services Occupations Curriculum. Additionally, Dr. LaRochelle organized and conducted interviews and assisted in the development of the In-School Survey instrument and the identification of appropriate research variables. Dr. LaRochelle also provided major input in the development of the final report.

Dr. Donald Thompson served as the Project Manager and assumed the responsibility for maintaining the project budget, organizing the data collection efforts and coordinating the development and printing of the final report. Dr. Thompson also served as the principal liaison with the State Department of Education.

Dr. Robert Gable served as Senior Researcher and had responsibility for the design of survey instruments, the development of other questionnaires/surveys as needed, the data processing and analysis and computer programming.

The qualifications of the three members of the administrative team include extensive experience in the areas of curriculum development and evaluation in health career areas, third party program evaluation, test development/validation, data management and analysis and research report writing.

TIME SCHEDULE OF PROJECT ACTIVITIES*

Activity	Beginning Date	Ending Date
Selection of Advisory Committee	August 1, 1981	August 15, 1981 (October 15, 1981)
Develop In-School Survey and Follow-Up Survey Instruments	August 1, 1981	September 15, 1981
Review of Available School Data	August 1, 1981	September 15, 1981
Identify Samples from Various Populations	August 15, 1981	September 30, 1981
Hold 1st Advisory Committee Meeting	October 30, 1981	October 30, 1981 (December 15, 1981)
Review of Selected Achievement Tests and Research Surveys By Advisory Committee and Other Selected Specialists	September 15, 1981	September 23, 1981
Conduct Current Student and Graduate Follow-Up Surveys	October 7, 1981	October 30, 1981 (February 25, 1982)
Review of Curricula Components of HSO Programs	October 7, 1981	October 30, 1981 (March 30, 1982)
Collection of Demographic and Performance Data on All Subjects	October 7, 1981	January 31, 1982
Progress Report		January 1982
Hold Second Advisory Committee Meeting	November 15, 1981	November 15, 1981 (April 5, 1982)
Collection of All Achievement Test Data	January 31, 1982	March 30, 1982 (April 15, 1982)

Activity	Beginning Date	Ending Date
Data Analysis	March 1, 1982	April 15, 1982 (May 30, 1982)
Hold Third Advisory Committee Meeting/Review Final Report	March 15, 1982	March 15, 1982 (September 15, 1982)
Preparation of Final Research Report	May 1, 1982	July 30, 1982
Preparation of Final Administration and Fiscal Reports	June 1, 1982	June 29, 1982
Submission of Final Administration and Fiscal Reports	June 30, 1982	June 30, 1982
Submission of Final Research Report	July 31, 1982	July 31, 1982

*NOTE: The dates indicated which are not parenthesized are the proposed dates included in the original proposal. The dates in parentheses are the dates the activities were actually completed.

DISSEMINATION

The results of this evaluation/research will be disseminated primarily through the development and publication of the final report for the project. The nature of the research question is such that it has primary importance only to the program(s) being investigated. However, with the approval of the Bureau of Vocational Program Planning and Development, the project staff will seek to publish various aspects of the research as appropriate in professional journals and in the ERIC file.

PROJECT ADVISORY COMMITTEE MEETINGS

Two advisory committee meetings were held and a third meeting is planned for the fall of 1982. The final meeting is scheduled following program completion to allow for the completion of the final report so that the report may be presented to the advisory committee and interested persons from the respective schools and the Connecticut State Department of Education.

Minutes of the advisory committee meetings and the name/address list for advisory committee members are presented in Appendices B and C.

UNANTICIPATED PROBLEMS

Two major problems arose during the conduct of this study which created delays in meeting a number of the original timelines but did not ultimately affect the successful and timely completion of the project.

The first problem was start-up delays which resulted from the negotiations between project staff and state department personnel regarding the nature and purpose of the study and the specific objectives to be addressed. The original start-up was July 1, 1981, but the actual start date was in September 1981.

The second problem encountered was serious illnesses which incapacitated both of the HSO staff members at one of the schools. This factor led to some delays in securing needed data from this school.

No other major problems were encountered. In fact, the spendid cooperation of guidance and HSO department heads at the respective school, the support of the directors at the schools and the assistance of state department personnel made the overall conduct of this study relatively easy.

SELF EVALUATION

The primary self evaluation technique used for this research study was a senior review of all timelines and deliverables by the Executive Director of EASTCONN. In addition, the Project Advisory Committee reviewed project implementation procedures and identified data to be collected as a part of the research effort.

Two primary considerations are important in any self evaluation of a research study effort. The first is accomplishing the project and associated activities in a timely manner. Second is producing a final product (i.e. the research report) of value in terms of providing timely and accurate data upon which program improvement can be based.

It will be noted from a review of the Schedule/Timelines section presented earlier in this report that many timelines were not met. This resulted from several problems which were also noted in a previous section (Unanticipated Problems). However, while some interim timelines were not met, this fact did not have a major impact on the overall conduct of the study and the study was in fact completed on the date designated as the program ending date.

With respect to the quality of this report in terms of its utility for program improvement, we believe it is a good report. We certainly hope and believe others will find the report will make a solid contribution for the improvement of HSO programs.

RESULTS AND CONCLUSIONS

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RESULTS AND CONCLUSIONS

As was noted in an earlier section, this study addressed five primary objectives. This section will be organized around the objectives, and they will be presented in numerical order.

Objective 1: To examine recruitment and counseling strategies employed prior to student selection of major program (shop) areas during the ninth grade.

The process of student selection of a program (shop) area entails three phases: orientation, recruitment and counseling. During the spring of grade 8 students entering the vocational/technical schools receive on orientation regarding the various shop programs available at the school. Counseling staff at Southeastern, Platt and Vinal visit the local schools and make presentations to the students. Later the students visit the vocational/technical school and receive an interview. At Wolcott the main recruitment activity consists of students making visits to the vocational/technical school where tours and interviews are conducted. After entering the school students participate in the exploratory process where they visit various shops during grade 9 and then select their shop during the spring of grade 9.

Objective 1 dealt with the orientation, recruitment and counseling process which began at the end of grade 8 and continued through the final selection of a shop at the end of grade 9. To examine this process Directors of Guidance were interviewed; all HSO and a random sample of approximately 50 non-HSO students from each school, proportionate to shop membership, were administered a survey. Responses to the student survey will be presented in this section. Following this, the survey responses will be discussed in light of the comments from the Directors of Guidance and some non-HSO students.

Student Survey

Items on the survey (see Appendix A) reflected the areas of the orientation process, interview, visit to the vocational/technical school, shop exploratory period and people contributing to the shop selection decision. The sections which follow will present the results of the survey. Emphasis will be placed upon the responses of the HSO and non-HSO students for the total sample from the four schools which are presented in the far right side of Table 1. Readers may wish to examine differences between the four schools for particular items. Note that the first section of Table 1 presents the demographic characteristics of the HSO and non-HSO students with respect to sex and grade level.

Orientation

Students were asked to what extent they were encouraged to enroll in the HSO program during the orientation held in their school (grade 8) or during their visit to the vocational/technical school (item 17). Forty seven percent of the HSO students and only 10% of the non-HSO students indicated such encouragement was present.

Interview

The importance of the personal interview was examined by item 12. The majority (56%) of HSO students felt the interview was important, while 42% of the non-HSO students felt this to be the case. Note that while Directors of Guidance indicated that all students were interviewed, approximately 15% of the students did not recall such an interview. Perhaps they enrolled after the interview process had been completed.

Visit

Visiting the vocational/technical school (item 8) was rated as an important determiner of shop selection by both HSO (69%) and non-HSO (68%)

groups.

Exploratory

Almost all students indicated that they had participated in the ninth grade exploratory program (item 9A). When asked if the exploratory program in their current shop area was the major factor in choosing their shop (item 9B), non-HSO students from all schools felt the exploratory was more important (75%) than did the HSO students (66%).

People

The final area examined was that of significant people contributing to the student choice of a shop area. Students were asked to indicate which one person helped or encouraged them the most in choosing their vocational shop program (item 7). For both HSO (47%) and non-HSO (38%) students, and especially the HSO students, parents were rated as making the greatest contribution to the student shop choice. Students were also asked to indicate from which people they received guidance and counseling regarding their shop choice (item 13). Noting that students could select more than one person for this item, the percentages listed in the table reflect the percentage of students selecting a particular person. It appears puzzling that about 60% of both the HSO and non-HSO students felt that no counseling or guidance were received. Of those indicating that they had received such counseling and guidance, 19% of the HSO and 15% of the non-HSO students indicated it came from the vocational/technical school counselors.

Tentative HSO Choice-9th Graders

In the entering freshman class of 1981 at the four schools with HSO programs, there were a total of 27 students who had selected HSO as their tentative shop choice when they completed their application in the 8th grade, but they chose another shop area following the exploratory period in the 9th grade. It was felt that this group could provide some particular insights into the choice process, and what factors contribute to the non-choice of HSO by a predisposed group.

Of the 27 students who were sent surveys, 17 returned completed questionnaires for a 63% return rate. The questionnaire (see Appendix A) contained only two questions, both of which required a write-in response. The two questions asked were: "Why did your shop choice change?" and "List any reasons why you did not choose HSO as your shop area.". With respect to the first question, "Why did your shop choice change", the most frequent response focused on finding a shop which was better liked. The second most frequent response category related to the curriculum's emphasis on theory versus practical application (field/clinical experiences) which students feel should be the focus of HSO. Overwhelmingly, students related their change of choice to the exploratory experience. Two students noted the teacher/method of teaching in HSO as the reason they chose another area.

On the second question, "List any reasons why you did not choose HSO as your shop area". Again, greater interest in another shop area was the major factor for many students, with "couldn't stand the sight of blood" being cited by four students. Also, the emphasis on theory in HSO was seen as objectionable by several students, and three students felt they could get better jobs in the trade area they chose than with HSO. Comments from three of the students are pointed and illustrate the concensus of responses. Their verbatim comments are presented next. "HSO does not offer any kind of job after you get out of high school (except nurses aide) unless you go to college or a school that trains you for nursing and I can do that without taking up HSO." "I felt I could do better in the electrical trade than in HSO, and I could always take an MRT course when I'm 16." "I thought

I had a better chance of getting a good job in electrical. There was too much theory in HSO and I didn't like it. I didn't understand some things in that shop."

SUMMARY

The process of recruitment and orientation of students for the vocational-technical schools appears to be essentially the same for those students in the HSO shop as well as other shops in the respective schools. However, the Guidance Department Heads were unanimous in their assessment that HSO is a hard shop to "sell". Two limiting factors were cited. First, unlike most other shop areas, HSO does not prepare the student for a specific job. Second, many students who choose to attend a vocational-technical school have a hands-on, action type orientation to the education process and often avoid those shop areas which appear to be sit-down, classroom oriented. Data from a group of students who made HSO their tentative shop choice in the 8th grade but then chose another shop area after 9th grade exploratory tends to confirm the perceptions of the Guidance Department Heads.

Data reported from the in-school student survey seems to indicate that the exploratory program is a more significant factor in shop choice for students in shop areas other than HSO.

Enrollment statistics indicate that there has been a significant decline in the number of students selecting and enrolling in the HSO programs. Perhaps this decline has resulted from the "opening up" of a greater number of shop areas to females and the failure of HSO to attract males into what has traditionally been a "female" program. The fact that 60% of all students indicated they had received no counseling in making their shop selection would mean there was little opportunity to break down stereotypic barriers which influence the shop choices of many students.

Objective 2a: To determine if HSO students differ from Non-HSO students in reading and math skills at the point of entry of HSO students into the HSO program.

HSO vs Non-HSO: Reading and Math Entering Skills

Objective 2 dealt with the reading and math skill levels of HSO and Non-HSO students. To examine the student skill levels prior to entering the program during the spring of grade 9, the spring grade 8 reading and math scores were compared from the Connecticut Vocational/Technical School Basic Skills Inventory entrance exam. Table 2 contains the HSO and Non-HSO reading and math means. The scores reflect the 0-18 point range employed by the basic skills exam. The t-tests carried out indicated that there were no significant differences ($p < .05$) between the HSO and Non-HSO students in reading and math skills at any of the four schools.

HSO Program First Choice

While the analysis presented above provides the answer to objective 2a, three additional exploratory analyses were conducted for the reading and math data. The first analysis consisted of examing the reading and math scores for those students selecting the HSO program as a first choice on the eighth grade spring application. Of these students two groups were created: those who entered the HSO program in the spring of grade 9 and those who did not subsequently enter the program. Table 3 contains the reading and math mean scores for these two groups for each of the four schools. For all schools no significant differences ($p < .05$) were found between the two groups.

Note that the number in parentheses below the reading means represents the number of students in each group. Thus, for the Southeastern school a total of 21 students selected the HSO program in grade 8 as a first choice. After the exploratory period, 10 of these students entered the HSO program.

Grade 9 Reading and Math Entry Skill Levels

The second analysis carried out provided a description of each school's grade 9 entry level reading and math skill levels. Table 4 (columns 2, 5) contains the reading and math means for all grade 9 students. A one-way analysis of variance was conducted to see if there were significant differences across the schools. In both reading and math significant differences ($p < .05$) were found (Reading: $F = 19.2$, $df = 3,771$; Math: $F = 6.5$, $df = 3,771$). Follow-up Tukey tests indicated that in the reading area Southeastern was significantly lower than Platt and Wolcott, and that Vinal and Wolcott were lower than Platt. In the area of entering math skills Southeastern and Vinal were both found to be significantly lower than Wolcott.

Grade 9 vs HSO Students' Reading and Math Entry Skill Levels

The final analysis compared the entering reading and math skill levels of the HSO ninth grade students with those of the entire ninth grade class. To achieve this comparison 95% confidence intervals were placed around the mean (u) for the entire grade 9 class ($u \pm 1.96\ S_{\bar{x}}$).* If the respective HSO mean was included in this interval, it would be reasonable (95%) to assume that the HSO student sample was similar to the entire ninth grade population. Table 4 presents the 95% confidence intervals (columns 3, 6) around the respective school reading and math ninth grade means (columns 2,5) as well as the HSO student means (columns 4,7). In all cases the HSO means are included in the confidence intervals which suggests that the HSO student reading and math levels are similar to the respective school grade 9 population.

Objective 2b: To determine if HSO students differ from Non-HSO students in reading and math skills as they progress through high school grades 9-12.

Objective 2b addressed the reading and math skill levels of HSO and Non-HSO students as they progress through school. The original research design called for the administration of a standardized achievement test to all HSO and a sample of Non-HSO students. Discussions with the Directors of Guidance from the four schools and the project advisory committee indicated that the administration of a test to Non-HSO students would be difficult to arrange and probably not result in valid data due to a possible lack of student interest in taking the test. As a result the Directors of Guidance suggested that the existing student tracking information be explored.

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*Symbols are as follows: u = population mean; $S_{\bar{x}}$ = standard error of the sample mean.

At each of the four schools students are placed in achievement level tracks upon entering grade nine. The tracks are initially selected on the basis of the reading and math basic skills admissions exam. As students progress through grades 9-12, teacher judgment plays a primary role in changing the tracks for a few students (grade 9 approximately 15%; grades 10-12, 5%), especially during grade nine.

It was decided that the best way to monitor achievement differences between HSO and Non-HSO students would be to describe the percentage of students in each track. Since the assignment of students to tracks was based both upon the admissions exam and later teacher judgment, the procedure would be more valid than a "compulsory" achievement test unrelated to the students' current programs.

We should note that each school uses a different tracking system with some much more comprehensive and complicated than others. Thus, each school's shop directory and track code were examined and the Directors of Guidance suggested viable clusters of track levels to be employed such as high, middle, low and remedial. Readers are cautioned not to compare the percentages across the schools since slightly different tracking codes and systems have been employed.

Tables 5-8 present the percentages of students in each achievement track by grade for each school. Note that the column headings in each table indicate the overall track clusters employed by each school. Within each track cluster additional track descriptions are used but have not been reported in these tables.

Since the track clusters were rather general in nature no statistical tests were carried out to compare the difference in percentages between the HSO and Non-HSO students. Instead, for each table a tally was made for the percentage of possible comparisons in which the HSO percentage was below the Non-HSO percentage. For example, in Table 5 there were 16 possible comparisons, and the HSO percentages were lower in 8/16 or 50% of the comparisons. This figure of 50% was fairly constant across the four schools (see table footnotes). Thus, while the track coding may not be extremely precise, there is apparently no trend present for differences in the percentages of HSO and Non-HSO students in particular tracks. These findings support the lack of differences found between the HSO and Non-HSO grade nine students for the reading and math entering level basic skills data reported earlier.

Summary

In summary, Objectives 2a and 2b addressed the differences between HSO and Non-HSO students in reading and math skills. The first objective dealt with the point of entry of HSO students into the program (actually, prior to entering grade 9); the second objective dealt with achievement tracks for 9-12 grade students. Based upon the analysis conducted, it can be concluded that HSO students possess similar reading and math skill levels to those of Non-HSO students at the beginning of the program. Also, during the high school grades both groups tend to be classified into similar achievement level tracks.

Objective 3: To examine the structure and content of the HSO curriculum to determine its relevance for the preparation of students for health careers.

A specialized educational curriculum which is well thought out, and systematically implemented according to relevant goals and objectives, is the most critical element in obtaining desired programmatic outcomes as a result of the instructional endeavor.

The aim of performing a curriculum analysis is to provide objective data about a specific curriculum from a variety of perspectives, that can be used to strengthen that curriculum, thus improving programmatic outcomes. If the vocational-technical HSO curriculum can be strengthened in ways which will increase the ability of its graduates to seek and successfully enter health service careers, the student, the school and society will benefit. There is a drastic shortage of health care personnel nationally as well as in Connecticut. It is inefficient and wasteful of human resources to lose interested, motivated, and capable individuals from the health care field because of unexpected barriers which deny them access to those entry level jobs for which their HSO and basic secondary education prepared for should have prepared them.

The analysis of the standard Health Services' Occupation's Curriculum (VT 208) currently being used in Connecticut's four Regional Vocational Technical Schools was approached from the following major perspectives:

1. Discussions with HSO program coordinators and guidance counselors in each of the four schools (Grasso-Southeastern, Platt, Vinal and Oliver Wolcott).
2. A survey of currently enrolled students (both HSO and non-HSO) to determine their perceptions of the HSO curriculum.
3. A follow-up survey of HSO graduates to determine their perceptions of the HSO curriculum.

4. A review of HSO curricula materials from other states.

5. A review of pertinent and current literature on national and local trends in the delivery of health care services.

Purposes of Vocational Education

Connecticut's Master Plan for Vocational and Career Education (1979 revision) defines vocational education as follows:

> "...It is the specialized curriculum of skills training which prepares (individuals) for specific occupations. Vocational instruction ranges from the secondary level of education through an associates degree but does not include a baccalaureate or advanced degree. A part of vocational education often includes counseling in career preparation and basic skills instruction, but occupational skills training is the core of vocational education."

According to this definition graduates of HSO programs, because of their specialized knowledge and training, should be in an excellent position to: (1) Obtain gainful employment (at the entry level) in one of the health occupations that best fits their personal needs, values, interests and abilities. (2) Gain admission to a post-secondary educational/training program in a health occupation of their choosing. (3) Gain admission to a two or four year college program of their choosing which prepares individuals for semi-professional and professional as opposed to assistant/ technician positions in the various health occupations. With the growing acceptance of learning as a life long process, progression from technical schools to post-secondary training programs and then to college programs is likely to become a more prevalent practice and pattern for tomorrow's youth.

Objectives of the Curriculum Analysis

In evaluating the standard curriculum utilized by the four HSO programs in Connecticut, four questions were addressed. The questions chosen focus on the goals of vocational education, the needs of the populations being served and national and local trends in health care delivery. Specifically, they are:

1. Does the HSO curriculum provide students with the appropriate/relevant knowledge and skills needed for entry-level positions in the health care field and/or for post-secondary training and/or education?
2. Does the HSO curriculum prepare students for health careers that are well suited to their personal interests, abilities and skills?
3. Is the HSO curriculum relevant to the populations being served?
4. Is the HSO curriculum responsive to national and local trends in health care delivery which are associated with the need for additional manpower at the assistant/technician level?

The Nature and Purpose of HSO Programs in Connecticut's Regional Vocational-Technical Schools

Students enrolled in the HSO program receive a combination of classroom instruction and supervised clinical experience. The type and amount of each varies in accordance with the objectives that need to be accomplished at each grade level (10 through 12).

Each of the four HSO programs uses the same standard curriculum and program objectives. However, HSO coordinators have the latitude to meet those objectives in a variety of ways. In addition to this difference, HSO coordinations identified the following areas where they felt additional differences between programs occured (Advisory Committee Minutes, April 5, 1982, Appendix B):

1. Admission Policies
2. 9th Grade Exploratory Shop
3. Resources Available
4. Field Experiences

Each of these areas was systematically evaluated to determine the exact nature of the perceived differences between programs, as well as their potential impact on programmatic outcomes. The results of this evaluation are described below.

1. Admission Policies. Guidance counselors at each of the four schools indicated their schools used the State Departments standard admission criteria in admitting students. The only discernable difference between schools was in the "cut off" points established for admission. An evaluation of the academic ability of the students admitted to each of the four schools, as evidenced by their achievement scores on the Connecticut Vocational/Technical Basic Skills Inventory, revealed that there were no major differences between schools, and no major differences between HSO and Non-HSO students. (This analysis is presented under Objective 2A.)

2. 9th Grade Exploratory Shop. Data obtained from students currently enrolled in the HSO program revealed that an overwhelming majority (94%) participated in the exploratory shop program, and most (70%) felt that their participation in the exploratory shop was the major factor in choosing HSO as their preferred shop. Wolcott was the only school where only a small majority of students (54%) felt that their participation in the HSO exploratory shop was their major reason for choosing it.

Variations in shop format do exist between schools. The one noteable difference is at Grasso-Southeastern where students spend half of the time (2½ days) allocated to the exploratory shop in HSO connected activities and the remainder of the rotation (2½ days) in another shop. However, HSO coordinators indicated that for the 1982-83 school year a standard HSO exploratory shop curriculum will be implemented in each of the four programs.

3. Resources Available. Recent graduates (79, 80, 81) of the HSO program were asked to evaluate the resources that were available to them

during their HSO program. The majority felt that the quality of both the equipment and facilities within their respective schools was good (47%) or fair (27%). Notable differences occured between schools, however, at Southeastern, 83% of the students ranked resources as good, whereas at Vinal, ratings varied from excellent to poor (excellent 6%, good 25%, fair 38% and poor 31%).

4. Field Experiences. Recent graduates (79, 80, 81) of the HSO program were asked to rate the appropriateness of their clinical learning experiences (field experiences). The majority of students felt they were either excellent (43%) or good (41%). Significant differences occured at Southeastern where 83% of the students rated their field work as excellent, and at Vinal where a few of the students rated their field work as excellent (20%) and the rest said it was either good (34%) fair (33%) or poor (13%).

HSO Curriculum Analysis: Purpose and Objectives

The HSO curriculum was designed to equip students with the requisite knowledge and skills needed for gainful employment at the assistant/technician level in a variety of health service occupations. There are numerous jobs within the health care field that lend themselves to vocational-technical school preparation because they require only a secondary school preparation plus varying degrees of specialized skill training.

The Connecticut State Department of Education developed and adopted a standard curriculum (VT 208) for all HSO programs, aimed at accomplishing the major objective of preparing students for "a cluster of related health service occupations", thus providing them with several occupational choices. The following jobs were identified as those for which HSO graduates would be eligible (with little or no additional education).

Assistant Admitting Officer
Central Supply Worker
Child Care Aide
Dietary Aide
Food Service Assistant
Health Service Receptionist
Homemaker Service Aide
Home Health Aide
Medical Records Clerk
Medical Records Library Aide
Mental Retardation Aide
Nurses' Aide
Nursery School Aide
Nursing Unit Clerk
Occupational Therapy Aide
Physical Therapist Aide
Psyhiatric Aide
Public Health Assistant
Rehabilitation Aide

The strategy that was used to implement this standard curriculum was to provide students with "a large body of educational material...identified as being common to the majority of these occupations...followed by cooperative on-the-job training for specialized responsibilities" (HSO Curriculum Guide, VT 208).

Additionally, completion of this standard curriculum was considered to provide adequate "pre-vocational enrichment" for students interested in health occupations which required additional educational preparation. Examples of these occupations, as listed in the standard curriculum guide are:

Dental Hygienist
Dental Laboratory Technician
Inhalation Therapist
Laboratory Assistant
Licensed Practical Nurse
Registered Nurse
Medical Laboratory Technician
Medical Technologist
Operating Room Technician
Social Service Case Aide
X-ray Technician

Each year of the HSO curriculum (grades 10-12) is implemented according to the predefined objectives listed in the standard curriculum guide. There are also seven overall objectives for the program, which provide a clear picture of what is expected of the program's graduates. These objectives cluster around three central themes: 1) knowledge and understanding of the nature and scope of the various health occupations, 2) the process of selecting a personally challenging and rewarding health career, and 3) demonstration of the basic knowledge and skills needed for employment in a health occupation. The seven specific objectives which students are expected to achieve by graduation are:

1. Demonstrate a knowledge and understanding of the nature, scope and diversity of job opportunities available in the health field.
2. Select the particular health career found to be most challenging and rewarding as an individual choice.
3. Define the personal, social, and behavioral qualifications needed to become a health worker.
4. Demonstrate the basic knowledge and skills needed to be employed in a selected health career.
5. Identify the role of the various members who make up the health team.
6. Demonstrate a competency in the art of listening, observing, reporting and performing selected skills.
7. Demonstrate professional and ethical inter-personal relationships.

Curriculum Analysis: Concerns Identified by HSO Coordinator and School Counselors

Both vocational-technical guidance counselors and HSO coordinators have expressed concern about the global objectives of the HSO program in terms of preparing students for employment. Objective #4 refers to one of several health careers that the student should select, but is non-specific as to which occupations students will be prepared to enter.

Guidance counselors say that this situation is problematic because they have difficulty explaining to prospective students what it is they'll be prepared to do after graduation from the HSO program. Unlike the other shops which prepare students for a specific and easily identifiable trade, students interested in the HSO shop don't automatically have a clear picture of the job they will assume with its associated duties, responsibilities, satisfactions and rewards. As a result, guidance counselors end up having to "sell" the HSO program to students and claim to have considerable difficulty doing so. HSO coordinators expressed similar concerns about the global expectations of the HSO program. They indicated that whether the program should have a broad base or a particular occupational focus is a major issue. Additional problems/concerns were identified by the HSO coordinators in the following areas:

1. Students who don't choose HSO as one of their three choices are being placed into the program.
2. Many students don't know that HSO programs exist.
3. Parents want to know what the difference is between nurse aide programs in hospitals and local high schools and the HSO program in the technical school because it is difficult to clearly distinguish between them.
4. There is no clearly identifiable final product and no certification or licensure that results from completion of the HSO program (Advisory Committee Minutes, December 14, 1981 and April 5, 1982, Appendix B).

The In-School Student Survey data collected for this project provides some insight into the concerns expressed by both HSO coordinators and counselors. When asked whether or not the HSO shop was their first choice, 81% of the students said yes and 19% said no. Wide variations occurred between schools, however, at Platt 93% of the student who selected the HSO shop received that assignment, while at Oliver, only 67% of the students who selected the HSO shop as their first choice were assigned to that shop. However, an in school survey of all freshmen applications to the four schools sponsoring HSO programs (1981-82 academic year) revealed that each student who had been assigned to the HSO shop had specified the same as a shop preference (either 1st or 2nd choice) on the original application.

When students from all shops were asked if they were encouraged to enroll in the HSO program either during their orientation at the middle school or on their visit to the vocational-technical school, a large number (101) responded affirmatively. Of this number 47% were HSO and 10% were non-HSO students. In addition, 74% of the non-HSO students said that they were unaware of the existance of the HSO program until they were already enrolled in the vocational-technical school.

SUMMARY

The analysis of the HSO curriculum was appraoched from five major perspectives: 1. Discussions with HSO coordinators and guidance counselors. 2. A survey of currently enrolled students (HSO and Non-HSO). 3. A follow-up survey of recent HSO graduates (1979, 1980, 1981). 4. A review of HSO curricula materials from other states. 5. A review of pertinent and current literature on national and local trends in the delivery of health care services.

The results of this analysis began in this section and continue throughout subsequent sections of this report. The questions that were addressed focus on the goals of vocational education, the needs of the populations being served, and national and local trends in health care delivery.

Problem areas related to the HSO program that were identified by HSO coordinators and vocational guidance counselors are detailed in the preceeding pages of this section of the report. Two major concerns which have been identified are:

1. There is no clearly identifiable final product and no certification or licensure that results from completion of the HSO program.
2. Many students don't know the HSO program exists (Advisory Committee Minutes, December 14, 1981 and April 5, 1982, Appendix B).

Curriculum Analysis: Objective #1 - Does the HSO curriculum provide students with the appropriate/relevant knowledge and skills needed for entry level positions in the health care field and/or for post secondary training/education?

CURRICULUM PERSPECTIVE

This question was answered from several perspectives. First, the standard HSO Curriculum (VT 208) was examined in order to match-up the various content areas with the jobs the curriculum purports to prepare students for. (These are listed earlier in this section of the report.) The major finding was that the curriculum is primarily focused on the knowledge and skills that would be required of a nursing assistant/aide, who would be capable of functioning in a number of different settings with little or no additional training depending upon the nature and quality of the clinical experiences he/she received. These settings include the home (Home Health Aide), hospital (Nurse's Aide), physician's office (Medical Office Assistant), and day care centers (Child Care Aide).

A few content areas did touch upon some of the essential learnings that would be required in occupations other than that of nurse's aide. For example, there was some material related to nutrition and special diets that a Dietary Aide would need to know; and also some information pertaining to laboratory techniques and selected laboratory analyses (i.e. blood studies) that a prospective Laboratory Assistant would need to acquire. However, the application of this material to these and other relevant occupations in the world of work was not evident in the curriculum guide.

A second major finding was the lack of specialized content in the depth and breadth that would be needed to prepare students to go on for additional training/education at the technician level. These positions, such as x-ray technician, laboratory technician, and surgical technician, etc., require more independent action and autonomy than jobs at the assistant/aide level. The HSO curriculum, as described in the standard curriculum guide (VT 208) is too basic and too general to prepare students for positions as technicians. However, it would be appropriate for the HSO curriculum to prepare students as technicians in selected health care occupations. Programs that are successful in preparing health care workers at the technician level are usually cooperative programs due to the highly specialized nature of the clinical training that is required, and also because of the great amount of student supervision that is required in order to insure the application of theoretical learnings to practice.

The HSO curriculum is designed so that students have a combination of classroom instruction and field/clinical experience throughout their program (grades 10-12). Clinical experience is described in the Standard Curriculum Guide (VT 208) as "an opportunity to receive specific occupational training in a chosen health career". However, this statement appears to be in conflict with the major objectives for the HSO program which is "to prepare students for a cluster of related Health Service Occupations". Additionally, the objectives for each grade level, which tend to be general in nature, support the latter notion of preparing students for a cluster of health service occupations. In the beginning of their program students are introduced, in a very general way, to selected health careers. They are expected to meet the follow objectives:

1. Demonstrate a knowledge and understanding of job opportunities available in the Health Service field.
2. Define the philosophy of the Health Service Occupations Program.
3. Recognize the challenges, opportunities and responsibilities in serving as a health worker.
4. Define the personal, social, and manipulative skills and qualifications needed to become a successful health worker.

None of the objectives listed in the HSO Standard Curriculum Guide (VT 208) aimed at 11th grade students are explicitly tied to the world of work. However, in the 12th grade each student is expected to:

> "select a health career relative to his/her interest and ability".

This particular sequencing of career based objectives that doesn't officially permit a student to select a specific health occupation until his/her final year of school, although acceptable in terms of the major goal of the program (to prepare students for one of several jobs that might be available in the marketplace), places the student at a disadvantage in three ways.

1. Students aren't systematically introduced (through planned learning experiences) to the variety of health careers that the HSO program purports to prepare students for early in their program or studies. Thus, there is little, if any opportunity to compare and contrast various occupational roles in terms of the nature and type of work as well as the responsibilities and personal demands involved in each role. (Note: The HSO coordinator from Platt does provide students with an opportunity to "shadow" health care workers in the following areas: ward secretary, recreational therapy, optometric assistant, dentist office, etc. HSO coordinators from the other schools provided no additional information that was different than that which was outlined in the standard curriculum guide.)

2. Students are not provided with "hands on" introductory experiences in several different health service jobs early in their program, thus are at a disadvantage in terms of choosing a job that best fits their own personal needs, abilities and values.

3. Students are not provided with an early opportunity to identify a career which is meaningful to them, thus providing them with a goal toward which they could be working throughout their program of studies.

HSO coordinators indicated that the specific field/clinical experiences which students receive do vary somewhat from school to school in accordance with students' needs and community resources. General guidelines for field/clinical experiences which all schools follow are detailed in the Standard HSO Curriculum Guide (VT 208). In the 10th grade students are limited to field trips. For 11th grade students, the curriculum guide provides no clear direction as to what kinds of experiences students should have or where. However, it does specify that the senior experience should be in a hospital/clinical setting with a focus on "advanced skills" in an area of the student's choice in order to provide each student with a "saleable skill". The specific guidelines for field/clinical experiences established for grades 10 through 12 follows:

> 10th Grade - Clinical experience in the tenth grade will be limited to field trips. Focus is placed on exposure to Health Care Facilities on an observational basis only.
>
> 11th Grade - Students enrolled in the clinical area will encompass a period of ten weeks. Each group of students will meet twice a week for four hours per day in a Health Care Facility. This period will also include pre and post conferences. Field experience is formulated to prepare the student to participate in a clinical program for the purpose of preparation for a cluster of related Health Service occupations.
>
> 12 Grade - Time spent in the clinical area will encompass a period of twenty weeks. Each group of students will meet twice a week, four hours per day in a general hospital setting and/or other clinical facilities. This period will include pre and post conference. Advanced skills and those procedures most frequently found in the area of the student's choice are emphasized. Field experience is designed to meet the specific need of the student. The ultimate goal is to prepare the student for a saleable skill upon graduation. Each group of students will meet twice a week for four hours per day in a child care facility to observe the physical, emotional, and social development of the child.

These recommended field experiences in the curriculum guide are too vague to support students' optimal learning. Some of the inherent weakness resulting from this vagueness are:

1. Specific field tips for 10th graders with associated learning objectives have not been identified.
2. For 11th graders the sites for clinical experiences are not delineated, nor are the objectives for each experience. Thus students don't know in advance what they are expected to learn or what they are expected to do. In addition, no provision has been made to insure that all students are exposed (rotated through) an identified cluster of health occupations.
3. All 12th graders are expected to spend a specified number of hours in a general hospital or other clinical setting as well as a specified number of hours in a child care facility. These requirements may not be congruent with "meeting the specific need of the student" if, for example, he/she want to become a laboratory or dental assistant and feels the need to focus on the specialized skills associated with those jobs. Also, the core learning activities for each of the health occupations which a student could chose have not been identified. This poses a problem when one attempts to determine whether or not those procedures and techniques considered basic to a given occupation have, in fact been achieved. It would also seem that this type of evaluative data would be needed by prospective employers in order for them to make a judgment about a students' level of preparation and suitability for employment in a particular job.

GRADUATES PERSPECTIVE

In addition to examining the curriculum for its relevancy in preparing students for entry level positions in the health care field and/or for post secondary training/education, students currently enrolled in the state's four HSO programs as well as recent graduates of the programs were asked to complete questionnaires which provided additional data upon which to make this determination.

Graduates from the classes of 1979, 1980 and 1981 were asked to rate the quality of the HSO curriculum and to specify, in retrospect, what part(s) of the curriculum proved most/least useful. First, they rated the overall quality of their classroom instruction as either excellent (55%) or good (38%). An exceptionally large number of graduates from Southeastern (83%) and Platt (71%) rated their classroom instruction as excellent.

Graduates also rated the quality of the laboratory instruction they received in each of their respective schools. There was considerable variation in the responses to this item: 20% said excellent, 28% said good, 27% said fair, 17% said poor and 9% checked "not applicable". When schools were examined individually, this data became more meaningful. Students at Southeastern and Platt were most satisfied with their laboratory instruction, with 50% of the students from Southeastern and 43% of the students from Platt rating it as excellent. Graduates from Vinal and Wolcott were not as pleased as other students with the quality of their laboratory instruction. At Vinal none of the students rated their laboratory instruction as excellent, 6% rated it as good, 63% rated it as fair, 19% as poor and 13% checked "not applicable"; and at Wolcott, ratings were spread out as follows: excellent 7%, good 43%, fair 14%, poor 25%, and not applicable 11%.

Most graduates rated the quality of the equipment and facilities within the school as either good (47%) or fair (27%). Noteable differences occured at Southeastern where 83% of the graduates said their resources/facilities were good; and at Vinal where graduates ratings varied from excellent to poor (excellent 6%, good 25%, fair 38% and poor 31%).

Graduates' impressions of the appropriateness of their clinical learning experiences also varied by school. Overall, graduates rated these experiences as either excellent (43%) or good (41%). However, major differences occured at Southeastern where 83% of the graduates rated their clinical experiences as excellent, and at Vinal where ratings again varied from excellent to poor (excellent 20%, good 34%, fair 33%, and poor 13%).

In terms of graduates' evaluation of the success of their HSO program in adequately preparing them for their first job, there was wide variation between schools. Graduates from Southeastern and Wolcott were most satisfied, with 88% of the graduates from Southeastern and 75% of the graduates from Wolcott rating their preparation as either excellent or good; whereas graduates from Platt and Vinal had varied responses. At Platt graduates rated their preparation as follows: excellent 29%, good 19%, fair 14%, poor 14%, not applicable 24%. At Vinal, graduates' ratings were: excellent 18%, good 31%, fair 25%, poor 0%, and not applicable 25%.

In order to gain some insight about specific aspects of the HSO curriculum, graduates were asked to respond to a number of open ended questions which focused on the most/least useful part(s) of their HSO shop program as well as the most/least useful part(s) of their academic program.

Approximately ninty (90) responses were received from graduates who answered the question "which part or parts of their HSO shop program was the most useful part of your education?". Multiple responses occurred in the following six categories:

26 - clinical experiences in the hospital
13 - field/clinical experiences in other than hospital settings
12 - anatomy
11 - physiology
5 - medical terminology
5 - nutrition

Other responses varied and included such areas as knowledge of body systems and functions, CPR training, and basic skills training, etc.

Graduates identified about 42 items that they considered to be the least useful part of their HSO shop program. Multiple responses occured in four (4) categories:

7 - nutrition
6 - cooking
3 - dietary
2 - nursing procedures/skills

Other responses were quite varied and included isolated field/clinical experiences such as the ABC Nursery and Totville, as well as coursework such as art and typing, and related activities such as sitting in the classrooms and too much note taking.

When graduates were asked to respond to the question "which part or parts of the academic program (such as math, social science, English, etc.) was the most useful part of your high school program?", responses (N = 87) tended to cluster into 6 major categories as follows:

24 - English
20 - Math
9 - Science
8 - Biology
5 - Social Science
4 - Chemistry

Other responses included such courses as typing, business math, bookkeeping and cooking, etc.

Graduates identified 83 parts of their academic program that they considered to be the least useful to them. Multiple responses occured in the following categories:

19 - Math
15 - Social Studies
7 - Science
6 - History
5 - Physics
5 - English

Other responses included courses such as typing, trig, print reading and art, etc.

CURRENTLY ENROLLED STUDENTS' PERSPECTIVE

Students currently enrolled in the State's four HSO programs were also asked to give their opinions about the HSO curriculum. When asked if the curriculum was what they expected 81% of these students said that it was what they expected it to be, while 19% indicated that it wasn't. Whereas, in the non-HSO shops, 85% of the currently enrolled students felt that the shop program met with their expectations. Since 19% of the students who were assigned to the HSO shop did not select HSO as their first choice, this group may represent the same 19% (of currently enrolled HSO students) whose expectations of the curriculum are not being met.

When students were asked what was different about the HSO shop program from what they have anticipated, several themes emerged: 1) the difficulty of the curriculum, 2) unmet expectations (several students thought they would like it better, and that it would be more exciting/interesting), and 3) the stringent enforcement of "rules".

Finally, currently enrolled HSO students were asked to make specific recommendations for changes in their shop curriculum. Central themes which emerged were to include/provide:

1. More out of shop activity (clinical/field experiences).
2. Less theory
3. A bigger shop with more equipment
4. Keep original instructors
5. Guaranteed job (i.e. go one step further to become LPN's, medical secretaries, etc.)

SUMMARY

Graduates of the HSO program (classes 1979, 1980 and 1981) were most pleased with the quality of their classroom instruction in the HSO shop and least pleased with the quality of their in school laboratory instruction except at Southeastern and Platt where the majority of students felt their laboratory instruction was excellent. Students in all school except Southeastern felt that their school's equipment/facilities were for the most part either only good or fair. Most students at Southeastern felt their school's resources and facilities were excellent.

Most graduates evaluated the appropriateness of their clinical learning as either excellent or good except at Vinal where ratings tended to cluster in the good or fair categories. Graduates evaluations of the success of their HSO program in terms of adequately preparing them for their first jobs was most favorable at Southeastern and Wolcott, moderately favorable at Platt and somewhat less favorable at Vinal.

In terms of curriculum specifics, graduates found their clinical/field experiences to be most useful, but their learnings in the nutrition/

cooking/dietary area to be least useful. Graduates felt that their most useful course in the academic program was English, but were just about evenly split on the value of their math and science courses.

A large majority (81%) of currently enrolled students said that the HSO curriculum was what they expected it to be. These students also made several recommendations for changes in the HSO curriculum which have already been described, the most notable of which is to have a guaranteed job after graduation.

Objective #2: Does the HSO curriculum prepare students for health careers that are well suited to their interests, abilities and values?

Super views a person's career choice as a syntheses of self concept. This "mirror image" of the self includes attitudes, abilities, interests, needs, values and past history. Thus vocational development is only one aspect of a person's total development.

In order to choose an occupation that truly fits their total identity, potential aspirants need an opportunity to gain experience in that occupational role, as well as exposure to the duties and responsibilities, problems and rewards inherent in that occupational role. If this can be accomplished, aspirants stand a better chance of choosing an occupation that will provide them with success and satisfaction over time, and contribute to their total personal and professional development.

As pointed out in the previous section, the standard HSO curriculum (VT 208) only provides students with an opportunity to explore one health connected occupational role in depth, that of nursing assistant/aide. In addition, the standard HSO curriculum, which tends to emphasize those knowledges and skills that are basic and essential to a nursing assistant's/aide's role, is likely to be most beneficial to those students who plan to further their education in nursing as opposed to one of the related health services (i.e. laboratory technologist, x-ray technician, dietician, physical therapist, etc.). A major deficit in the standard HSO curriculum is the inadequate opportunity for students to systemically explore a cluster of health service occupations for the purpose of matching their "identify" with the "identify" of a health occupation that best fits their identified interests, abilities, values, needs and goals.

In an attempt to determine the extent to which students of the HSO program benefited from and were satisfied with their preparation for both employment and continued educational pursuits, graduates of the program (classes of 1979, 1980 and 1981) were asked a number of questions about their current educational and occupational status as well as their future aspirations. Thus, graduates' responses provided considerable insight albeit indirectly, about their personal interests, abilities and values pertaining to health careers. Additionally, currently enrolled students in the HSO shop program were also asked selected questions which again indirectly provided valuable information pertaining to their personal interests and values related to health services occupations.

HSO GRADUATES

Recent HSO graduates (classes of 1979, 1980 and 1981) were asked a number of questions which pertained to their current educational/employment status as well as their aspirations for the future. Of this group the majority (63%), were employed, 13% were in the military, 10% were enrolled in an educational program, and the remainder were either looking for work or had home responsibilities, etc.

Of the graduates who were employed (63%), less than half (31%) were working in the health care field. There was one notable difference between schools. At Southeastern 50% of the graduates were working in non-health related jobs. The types of jobs graduates from all held were clustered in the following areas:

13 - Nurses Aide

2 - EEG Technologist

2 - Home Health Aide
Respiratory Therapy Technician
Dental Assistant
X-Ray Technician
Physical Therapy
Dietary Aide

Students who left the health care field were engaged in a variety of occupations such as chambermaid, deli clerk, receptionist, legal secretary, bookkeeper, etc. Reasons given by graduates as to why they took jobs in another field varied. Some of their typical responses were inability to find a job in the health field (14%), didn't like the job in the health field (14%), didn't like the work in the health care field (21%), and were enrolled in school full time (14%). The remainder of the responses varied.

Graduates were also asked how well they believed their HSO programs prepared them for a career in their chosen field. Although the majority of graduates said either very well or well, there were wide variations between schools. At Southeastern 100% of the graduates were pleased with their educational preparation. However, this was only true of 89% of the students at Wolcott and 75% of the students at Platt and Vinal. However, when asked how they felt about their present job, 80% of Vinal's graduates were either very satisfied or satisfied, whereas only 63% of the graduates from Platt, 50% of the graduates from Southeastern, and 32% of the graduates from Wolcott shared their sentiments. A large percentage of students from the three latter shcools indicated that they were either indifferent about their jobs or unemployed. However, this was true of only a small percentage of students fron Vinal.

Since graduating from their HSO program, a relatively large number of individuals (53%) obtained additional education/training related to their health occupations education. Of this group 31% went on to either a two or four year college program. In addition, a large number of graduates (63%) have received additional training and/or education which resulted in the receipt of health care related licenses/certifications/registrations since their graduation from the HSO program for the following jobs: state certified nurse's aide (N = 7), EMT, EEG technologist, respiratory therapy technician, home health aide, registered x-ray technician, etc.

When HSO graduates were asked what occupation they hoped to be engaged in five years from now, approximately 80% specified a job within the health care field. The most frequently listed occupation was nursing (13 of 68 responses). Other responses included jobs at the aide/assistant level (i.e. nurses aide, dental assistant, and administrative medical assistant); technician level (EMT, respiratory therapy technician, and x-ray technician); and also a few requiring professional education/training (i.e. dental hygienist, social work, physician's assistant and nuclear medicine, etc.).

CURRENTLY ENROLLED HSO STUDENTS

Students currently enrolled in the state's four HSO programs were asked a series of questions about their vocational shop, how they came to choose that particular shop, and what they expected to do with their specialized education. Most HSO students (70%) knew about the HSO program prior to their enrollment in the vocational technical school, as opposed to only 26% of the Non-HSO students. In addition, most of these students (47%) indicated that their parents were the primary influence in encouraging them to choose the HSO shop (this was only true for 37% of the Non-HSO students). Sixty percent of the HSO students said they had received no guidance or counseling while in the process of selecting a vocational shop.

When students were asked their major reason for selecting the HSO shop program, except for a few random remarks, their responses fell into five major categories:

1) to nurse (n = 53)

2) to further their education in the health care field (n = 25)

3) to have a health occupation (n = 25)

4) to work with people/help people (n = 22)

5) to prepare for a specific job (n = 14)
(i.e. EMT, Paramedic, Surgical Nurse, Radiologist, Veteranarian, X-ray Technician, Medical Assistant, Dental Hygenist, etc.)

One of the most important questions asked of currently enrolled HSO students was what they planned to do after graduation. Their responses were quite varied, and differed significantly from the responses students enrolled in non-HSO shop programs. The majority of students (45%) in the non-HSO shop programs expected to seek a job in the same area as their shop training after graduation, whereas only 10% of the HSO students indicated that this was their intent. A large number of HSO students said they planned to go on to a four year college (22%) or 2 year college (10%), and another large group (19%) didn't know what they were going to do after graduation. Only a small number of non-HSO students planned on furthering their education in either 2 year (5%) or 4 year (3%) college programs. In addition, only a relatively small number of non-HSO students (10%) didn't know what they were going to do after graduation.

SUMMARY

The HSO curriculum was examined to determine the degree to which graduates were prepared for health careers that were well suited to their personal "identities". Upon examing the structure of the standard HSO curriculum, it was noted that a major deficit was the lack of opportunity for students to systematically explore a cluster of health service occupations before choosing one as a career. In addition to the curriculum analysis, both HSO graduates and currently enrolled HSO students were asked a number of questions about their current educational/employment status, and their future aspirations along these lines in order to determine, albeit indirectly, the suitability of their HSO preparation in terms of their personal interests, abilities, values and goals.

Of the HSO graduates who were employed (63%) less than half (31%) were working in the health care field. And, most of those who were working were functioning as nursing assistants/aides. When graduates were asked how well their HSO program prepared them for a career in their chosen field, responses were mixed. Graduates also had mixed responses when asked how satisfied they were with their present job.

It was found that a large number of graduates (53%) obtain additional education/training related to their HSO education, and that 63% have obtained at least one license/certification/registration since their graduation from technical school. Most graduates had high level career goals, well beyond the entry-level jobs for which the HSO program is designed to prepare them.

The majority of currently enrolled students indicated that they chose the HSO shop because of parental influence, and had received no guidance/counseling while in the process of selecting a vocational shop. Most of these students said they selected the HSO shop because they wanted nursing. As opposed to students in the non-HSO shops who planned on seeking a job in their field after graduation, a large number of HSO students said they wanted to go on to two and four year colleges, and another fairly large group said they didn't know what they were going to do.

Objective #3: Is the HSO curriculum relevant to the population being served?

The data needed to answer this question must be drawn from the preceeding discussion. It is a difficult question to answer, and of necessity, requires some interpretation of the discussion with the advisory committee, the data obtained in the survey of HSO graduates and currently enrolled students, and the results of the curriculum analysis.

After a careful examination of all of the data obtained from the sources noted above, the strengths and weakness of the standard HSO curriculum were evident. These will be discussed in terms of the students being served.

Curriculum Strengths

One of the major strengths of the HSO program is the enthusiasm and dedication of the HSO Coordinators, as well as their concern for students and desire to improve their HSO programs in order to better meet the needs of students and the community. For example, the HSO exploratory shop program is already in the process of being redeveloped and standardized across schools.

A second strength of the program is the comprehensive nature of the standard curriculum content for the preparation of nursing assistants/aides. As already pointed out, however, a nursing based curriculum that purports to prepare students for several health service occupations is bound to run into difficulty due to the specialized nature of the other health occupations.

Curriculum Weaknesses

Students enrolled in the HSO program as well as graduates of the program have expressed an interest in preparing for a wide range of health occupations. The HSO curriculum, through its general care oriented structure is supposed to accomplish this. However, in light of the ever increasing specialization within each of the health occupations it will become increasing more difficult to accomplish this goal.

In addition, comments from vocational school guidance counselors and HSO coordinators, as well as from parents, currently enrolled students and graduates point to the need to reexamine the philosophy and goals of the HSO program. Counselors and HSO coordinators have spoken to the need for more clearly defined outcomes (i.e. specific jobs students will be prepared to do). Parents want to know how the HSO program differs from the nurse aide programs in the high schools. Finally, students and graduates have expressed the need and desire to prepare for specific jobs, and most accomplish this by going on for additional education/training after graduating from the HSO program. Another point that is relevant to this discussion is the importance of introducing students to a cluster of health careers in order to enhance their chances of choosing the career that best fits their interests, abilities and goals.

SUMMARY

The goals of the current HSO program need to be reevaluated in terms of the expressed needs and concerns of vocational school counselors, HSO coordinators, parents, currently enrolled students and graduates, in order to increase the relevance of this important program to the population being served.

Objective #4: Is the HSO curriculum responsive to national and local trends in health care delivery which are associated with the need for additional manpower at the assistant/technician level?

The health care industry is about the third largest in our country and is one of the few industries that continues to grow. At the present time there are manpower shortages at all levels, which are expected to continue for at least the next few decades.

Hospitals, which are the largest employers of health care personnel are faced with shortages of nursing personnel, as well as workers at the assistant and technician level in related fields (i.e. x-ray and laboratory etc.). In Connecticut there is a concern that there aren't enough new individuals entering the various health care occupations to fill the vacancies which result as workers retire or leave for other reasons (Hartford Courant, February 8, 1981, Appendix E).

The Hartford Courant in a recent article on the shortage of technicians and allied health workers in the State (Appendix E) reported the following:

1. That applications for training programs provided by area hospitals are "way down" and that in some programs the student drop out rate is approaching 50%.
2. "High school guidance counselors are spending less time on advising about future jobs, and both students and career counselors are not aware of many of the opportunities within the health care field."

Youth unemployment in Connecticut is very high for adults as well as for high school guaduates. James Tomasek, State Labor Department Manager of employment and community services for the greater Hartford area recently said "... for each job available, the kids are competing with more people with experience" (Hartford Courant, July 4, 1982, Appendix E). One area that still offers good employment prospects for high school graduates entering the labor force is the health care field. The four vocational technical programs which already offer HSO programs are in an excellent position to restructure their programs in ways which would help to fill the need for more technical workers in the health care field while simultaneously assisting to reduce the high youth unemployment figures.

There is a recent major trend in the health care industry which is expected to markedly effect the need for new categories of health care workers in the very near future. That is, the increased emphasis on home care and community based services as opposed to hospitalized services for most conditions and illnesses. In addition, due to the increasing numbers of elderly persons (age 65 and older), the majority of whom suffer from one or more chronic diseases (i.e. heart disease, arthritis, etc.) and who are subject to more disability and therefore need more care than younger individuals who tend to have acute illnesses, the manpower requirements for health care workers knowledgable and skilled in the care of the elderly will continue to increase dramatically in the decades ahead. The health care system is just beginning to respond to the preparation of special categories of workers who are skilled at providing care for older individuals (i.e. geronteological nurses and nursing home assistants/aides). Likewise, it is just beginning to prepare special categories of workers to provide care outside of acute care hospitals (i.e. home health aides).

In Connecticut, a special report on the elderly submitted by the Statewide Health Coordinating Council said "If current patterns of use are continued, the nursing home population is project to increase by 22 percent over the next 10 years." (Hartford Courant, July 2, 1982, Appendix E). This report went on to recommend that the state "look at expanding community services for the elderly, such as day care and group homes".

SUMMARY

There is a growing need for health care workers at the assistant/technician level in Connecticut, not only to provide traditional hospitalized health care services, but also to provide care in newly expanding areas such as nursing homes and private homes. There will also be a need for new categories of workers in the newly developing community based services such as day care for the elderly.

In light of the high youth unemployment rate in Connecticut and the growing need for health care workers in all of the health care occupations at the assistant/technician level, vocational technical schools which already have HSO programs are in an excellent position to restructure their programs in ways that would help to alleviate both of these problems.

Objective 4: To conduct a follow-up survey of HSO graduates to examine their perceptions with regard to recruitment processes, curriculum relevance, and vocational preparation in the HSO curriculum as well as their current vocational activities and future plans.

A major component of the overall evaluation design was a follow-up survey of program graduates from the last three years (1979, 1980, 1981). The survey instrument was designed by project staff with assistance from the advisory committee. Some content aspects of the follow-up survey are:

-- General demographic information
-- Graduates' post-secondary educational/vocational training activities, employment and job satisfaction
-- Career aspirations and plans
-- Graduates' perceptions of: the HSO program, including the recruitment, counseling and orientation activities, the utility of the HSO curriculum, adequacy of preparation for "real world" jobs, and the adequacy of basic skills training.

A copy of the survey questionnaire is included as a part of Appendix A .

The sample for the follow-up survey included a total of 145 which represents all HSO graduates (1979-1981*) from the four vocational-technical schools which offer HSO programs. Project staff were provided with names and addresses for all graduates by the respective HSO Department Heads from each of the schools. An address could not be obtained for one graduate (from Southeastern). Therefore, the survey mailing included a total of 144 graduates (Grasso-Southeastern = 11, Oliver Wolcott = 54, Platt = 51, Vinal = 38). Since graduates were gauranteed anonomity in their responses, only one mailing was carried out and returns did not bear the name of the respondent.

The returns for this mailing included 13 questionnaires returned as undeliverable (no current address on forwarding instructions). This effectively reduced the sample to 131 potential respondents. Of this group, 72 returned completed, useable questionnaires, yielding a return rate of 55%.

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*Grasso-Southeastern RVTS had its first graduating class in HSO in 1980. Therefore, only two classes are included for this school.

This return percentage is considered quite adequate for this type of mail survey on this type of population. An earlier study done on a similar population in Connecticut yielded only 57% after three mailings.

There were a total of 19 questions (2 had multiple sub-parts). Of the 19 questions, 15 were amenable to numerical coding and subsequent statistical analysis. When the sub-parts of three questions were broken down, a total of 24 numerical variables were derived. Table 9 in Appendix F presents these statistical summaries on these 24 variables broken down by school.

Four questions on the survey form were not coded numerically, but were typescripted and the analysis of the data from those four questions (items 14-17) is presented later.

The first two questions on the survey solicted information regarding the occupations of the respondent's parents. As a socio-economic indicator the occupational level of father is considered to be one of the prime indicators of the socio-economic level of the family of origin. Mother's occupational level is also considered as an effective indicator. Occupations were coded as to level using Roe's occupational hierarchy with the following categories and related numberical codes:

1 = high level professional and technical occupations,
2 = low level professional and technical occuations
3 = semi-professional and small business
4 = skilled occupations
5 = semi-skilled occupations
6 = unskilled occupations

Two other categories were assigned for counting purposes (not used to compute the means/averages). These were:

7 = housewife

8 = retired.

For the total group, 63% of all fathers held occupations which are considered skilled (#4). There were a few minor differences between schools in terms of this socio-economic indicator. Similar results were noted when comparing mother's occupation between schools. Mother's occupational levels were considerably lower than that of fathers. The groups from Vinal and Oliver Wolcott had considerably higher percentage of working mothers.

On question 3, graduates were asked which factor most influenced their choice of the HSO shop. Seventy-three percent of the total group indicated that the reason was "really wanted career in the health field". Only a small percentage of the group (5.6%) were involuntarily assigned to the HSO shop. When asked "which of the following persons most influenced your choice of HSO as a shop area" (Question 4), 30% of the respondents indicated parents. Very small percentages indicated shop teachers (5.7%) or tech school counselor (1.4%). An Other response category was included; and in checking the write in response for the other category it was discovered that a large majority indicated "SELF" as the person most influencing their choice.

On question 5, "Since graduation from the HSO program, have you completed any additional education or training related to your health occupation education?". Forty-seven percent of the total sample indicated NONE. Platt graduates (57%) had the highest NONE response and Vinal (31%) had the lowest. Most graduates who had post-secondary training had/were attending a community college (23%). Vinal had the largest percentage (44%) in this category.

Question 6 asked, "If you are now enrolled in any school, for what occupation or profession are you preparing?". Responses to this question were coded on two dimensions. First, health related versus non-health related. Second, occupational level was coded using the same classification described for coding mother and father occupations. A total of 34 (47%) were enrolled in school. Of these, 24 (33%) were enrolled in health related programs. Vinal had by far the largest percentage (71%, N = 10) enrolled in health related programs. With regard to the level, 47% of all graduates (N = 16) were pursuing educational programs leading to occupations at the skilled level (e.g. technicians, medical secretary). A total of 7 graduates (12%) were preparing for professional occupations (e.g. R.N.).

Question 7 asks, "Which one of the following best describes your current position?". Forty six of the graduates (64%) reported being currently employed. Of these, 23 (32%) were employed in the health care field. In comparing schools, the percentages were very similar. Of those employed in health care occupations, nurses aide was the predominate response (N = 10) with others employed in a variety of occupations such as technicians and assistants. Wolcott had the largest number (N = 4) of graduates enrolled in full-time education programs (and therefore, not employed).

For question 8, graduates were asked why they chose a job outside the health care field. Forty four graduates responded to this question. Of this group 6 (18%*) indicated they were in school, 10 (14%) indicated they were unemployed, 6 (8%) indicated they could not find a job in a health related area and 9 (13%) indicated they did not like work in the health care field.

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*Note that this percentage is computed on the basis of the total N of 72 subjects.

Question 9 focuses on the graduates present level of job satisfaction. Of those graduates that were employed (N = 54), most (N = 37, or 67%) were satisfied or very satisfied with their jobs. Vinal had the highest percentage (80%) in these two categories.

On question 10, graduates were asked "How well do you believe your HSO training program prepared you for a career in your chosen field?". Of the 69 graduates who responded to this question, 56 (81%) indicated WELL or VERY WELL. One hundred percent of the graduates (N = 6) from Grasso-Southeastern responded in these two categories. The percentage for the other schools in these two categories were Wolcott (89%), Platt (75%) and Vinal (70%).

Question 11 asked the graduates how they located their first job after graduation. Of the 67 who responded to this question, 24 (36%) indicated "want ads or direct application to employer and 15 (23%) indicated "friends or relatives". Only 4 graduates (6%) indicated school faculty (teachers or guidance) had provided assistance in getting their first job.

Question 12 asks, "What health care related licenses/certification/registrations do you currently hold?". Respondents were asked to list them. Forty-five (63%) indicated they had such certification. The common certification held was that of nurses aide. Other certifications included a variety of technicians (EEG, Radiology, etc.), assistants (medical, psychiatric, etc.). Additional analysis of this item was also incorporated into the curriculum analysis section presented earlier under Objective 3.

section presented earlier under Objective 3.

Question 13 asked respondents to give their opinions regarding five aspects of their HSO training by rating these on a four point scale (Excellent, Good, Fair, Poor) with a fifth category for Not Applicable. The first rating was on the "Quality of Classroom Instruction". Overall, 93% of all respondents indicated Good or Excellent. Grasso-Southeastern and Platt graduates gave the highest ratings to this area. Item 2 asks for a rating of the "Quality of Laboratory Instruction". On this, 48% of the graduates rated Good or Excellent. Again, graduates of Platt and Grasso-Southeastern gave the highest rankings. Item 3 focuses on the "Quality of Equipment and Facilities". Sixty-one percent of the graduates rated this area as Good or Excellent. Grasso-Southeastern, Platt and Oliver Wolcott had strong positive ratings in this category. Item 4 asked about the appropriateness of clinical learning experiences. Eighty-four percent of the graduates responded Good or Excellent. Vinal had significantly lower ratings when compared to the other three schools.

The last of the five items asked, "Success of your training program in preparing you adequately for your first job". Sixty-two percent of the graduates responded Good or Excellent. Graduates of Oliver Wolcott and Grasso-Southeastern gave significantly higher ranking than graduates of the other two schools.

Question 18 on the Follow-Up Survey asked for graduates' perceptions of other services available in their school including help in making career decisions, counseling with personal problems, counseling with school problems and help in obtaining a job after graduation. Sixty-six percent of all graduates felt that help in making career decisions was Good or Excellent. Graduates of Vinal ranked this area significantly lower than graduates of the other schools. With regard to counseling with personal problems, 58% of all graduates gave a ranking of Good or Excellent. Again, Vinal graduates gave significantly lower rankings. On part 3 of question 18 regarding counseling with school problems, 67% of all graduates ranked counseling services as Good or Excellent (again, Vinal graduates were lower with about 44% rating the counseling as Good or Excellent). Overall, help in post-graduation job placement, (item 18-4) was ranked relatively low by graduates, with only 24% of all graduates ranking this as good or excellent. However, a large percentage of graduates (43%) indicated they had not sought assistance in this area. Oliver Wolcott and Grasso-Southeastern graduates responded with higher percentages of Good or Excellent with 33% and 32% respectively.

In addition to those items summarized above, there were five additional items which were open-ended and could not be statistically analyzed. Items 14 through 17 asked graduates to list the most and least useful parts of their HSO shop prpgram and the academic program at their respective schools. A summary of those responses are presented below, and this data is also reviewed with respect to the curriculum implications under Objective 3 presented earlier.

As for the most useful parts of the HSO shop program, graduates indicated clinical hospital experience (n = 24); theory, notes and charts (n = 12) anatomy; clinical and terminology (n = 12); basic skills/vital signs (n = 5); and nutrition (n = 4). Numerous other areas had 1 or 2 mentions. As for the least useful parts of the HSO shop program, graduates mentioned nutrition (n = 6); and cooking (n = 5). No other item was mentioned more than once.

With respect to the academic program, the most useful parts rated were: English (n = 23); math (n = 16); science (n = 8); biology (n = 7); and social science (n = 4). Other areas were mentioned by only one graduate. The least useful areas noted were: math (n = 15); social studies (n = 8); science (n = 6); social science (n = 5); geography/history (n = 5); physics (n = 4); English (n = 4);and typing (n = 3).

The final question on the graduate follow-up survey asked, "What occupation do you hope to be engaged in five years from now?". Only fifty-three percent of the graduates identified an occupational area which was directly related to their HSO shop training. The only occupation among the group mentioned more than once was Registered Nurse. Seven graduates indicated they hoped to be R.N.'s in five years. Other occupations noted included a variety of technicians, aides, therapists, assistants, etc.

SUMMARY

The data presented in this section indicates that HSO graduates chose the HSO shop area voluntarily rather than being assigned. Their choice of shop was influenced primarily by parents and personal factors. A majority of graduates reported some type of post-secondary educational experience and 47% report being currently enrolled in school (with about 2/3 of that 47% enrolled in health related education programs). Sixty-four percent of the group report they are currently employed but only half of that group are employed in an occupation related to their shop training.

A high percentage of graduates reported they felt their HSO program prepared them well for their first job and most were well satisfied with the HSO classroom instruction and clinical experience. However, less than a majority felt that the laboratory experiences in HSO were either good or excellent. The clinical experience component of their program was reported as the most valuable education experience.

The counseling services were generally perceived as good or excellent at most schools, however, graduates did not receive much help with post-high school job placement.

Perhaps the most significant piece of data supplied by graduates is their future occupational plans. Only a slight majority (53%) hope to be employed in a health related career five years from now.

Objective 5: To identify barriers which restrict male students from participating in the HSO program.

Important factors which influence an individual's choice of occupation are the stereotypic images and perceptions of that occupation which the individual believes to be real/true. Because the majority of jobs within the health care field have historically been filled by women, one of the most prevalent stereotypes that has evolved is the belief that health care occupations are well suited to women (women's work) but unsuited for men. This stereotype is reinforced by the conspicuous absence of men engaged in health care jobs (with the obvious exception of emergency medical technicians at the skill level and physicians at the professional level) who could serve as role models for students who are in the process of making a career choice.

One of the five objectives of this reserach study was to determine if there were obstacles, either perceived or real, which mitigated against the participation of males in HSO programs. The importance of examing this issue was reinforced by the Project Advisory Committee which identified sex equity as a "major hurdle for HSO programs to overcome" (Advisory Committee Minutes, December 14, 1981, in Appendix B).

With guidance from the advisory committee, two multiple item questions were developed to elicit students' attitudes pertaining to sex equity issues in relation to the HSO program (questions 18 and 19 on the In School Student Survey, in Appendix A). In question 18 (Table 1) students were asked to respond to six statements about the HSO program in their school by rating how strongly they agreed/disagreed with each or by indicating that they had no opinion. In question 19 students responded in the same manner to statements related to health care occupations in general. Three broad areas were addressed:

1. the suitability of health care occupations for men as well as women
2. the relevance of the HSO program in preparing students for worthwhile jobs
3. the perceived status and financial security of health service jobs.

Approximately 360 students (HSO and Non-HSO) who were currently enrolled in the four RVT Schools surveyed (Grasso-Southeastem, Oliver-Wolcott, Platt, and Vinal) provided responses to each of the sex equity questions (18 and 19) included in the In-School Student Survey. Their responses were analyzed in the aggregate as opposed to by school. For the purpose of analysis students were placed into two groups based on their shop assignment, HSO and Non-HSO, in order to obtain meaningful insights about the differing opinions these groups would be likely to hold about HSO training and health service jobs. By comparing the responses of students who had selected health as an occupational choice with those who didn't, concrete information could be provided that would be useful in the development of recruitment and counseling strategies and in the development of materials designed to correct some of the misconceptions and stereotypic attitudes which are associated with jobs in the health care field.

The Suitability of Health Care Occupations for Men As Well As Women

In response to the statement "HSO programs are only for girls" an overwhelming majority of the HSO students (92%) disagreed, as opposed to only a small majority of Non-HSO students (61%) who disagreed with this statement. In fact, 12% of the Non-HSO students agreed with this statement and another 27% were unsure.

Students' responses to sex equity statements about health care occupations in general, help to explain which stereotypes both HSO and Non-HSO students hold. For example, 33 of the 183 students enrolled in an HSO program (24%) either agreed or had not formed an opinion as to whether "women make better health care workers than men". In addition the majority of Non-HSO students (97 of the 179 students surveyed) either agreed with this statement or had no opinion (54%). Further, only 76% of the HSO students and 50% of the students from other shops disagreed with the statement that "men who go into health care aren't really macho". Finally, in response to the statement "males who go into health care should aim for administrative jobs", the majority of HSO students disagreed (68%) while 8% agreed; a large number of Non-HSO students didn't know (48%), while 13% agreed.

The Relevance of the HSO Program In Preparing Students for Worthwhile Jobs

The students surveyed differed considerably in their responses to statements which related to this content area. Eighty-five percent (85%) of the HSO students but only 50% of the students from other shops felt that "HSO programs prepared persons for worthwhile jobs".

Only 60% of the HSO students and fewer of the Non-HSO students (42%) believed that "graduates of HSO programs have excellent job opportunities". Yet, these same students felt that "there are great opportunities for advancement in health care jobs (88% HSO and 62% Non-HSO), and "graduates of HSO programs have a good start in career advancement in the health care field (86% HSO and 73% Non-HSO).

The Perceived Status and Financial Security of Health Service Jobs

In response to the statement "except for doctors and dentists, jobs in health care are low status jobs" 75% of the HSO students disagreed while 55% of the Non-HSO students disagreed with this statement. In response to whether "health care workers have financially secure jobs" less than half of HSO students agreed (46%) but the majority of Non-HSO students didn't know (53%). Additionally, half of HSO students (50%) didn't know whether "HSO programs prepared (them) for better paying jobs than other vocational majors", although some (29%) realized that they didn't. By contrast, 52% of the Non-HSO students felt that the non health occupation paid more than the health service occupations; however, 36% didn't know.

SUMMARY

Based on the data obtained it is clear that the majority of Non-HSO students 61% (who are also predominately male) view health occupations as appropriate careers for both sexes. However, the large numbers of both HSO and Non-HSO students who believe that health service jobs are more suited to women, prove that there is still a great need for the dissemination of accurate and current information pertaining to occupational roles in the health care field, as well as the need for additional career counseling aimed at dispelling the myths and stereotypic images that both males and females continue to hold about health care jobs.

The publication "STEPS Toward Eliminating Program Stereotyes in Vocational Education" prepared by the Connecticut State Department of Education stresses the point that women "need to have their occupational horizons braodened", whereas men "need to see a wider variety of occupations as suitable for them". It goes on to say that:

> "young women and men cannot prepare adequately for adulthood unless they develop positive attitudes of self-worth, see themselves as significant contributors to the world around them, and receive encouragement to explore their own potential."

Appropriate career guidance and counseling is the key to matching individuals with the occupations that best fit their abilities, interests and personalities, particularly in those occupations which are currently segregated by gender.

Students in general don't seem to be convinced that HSO graduates will have excellent job opportunities. This feeling seems to relate back to a problem identified by the Advisory Council, which is that HSO programs don't prepare students for a specific job(s). Also, it is troublesome that a relatively large number of students who were in the process of preparing for a health occupation didn't know if they were being prepared for "worthwhile jobs".

Finally, there was considerable uncertainty on the part of both HSO and Non-HSO students as to whether health care jobs were financially secure. This may be due to the apparent information deficit regarding: how much health related and non-health related jobs pay, and the market demand for the types of jobs HSO programs are preparing individuals for.

RECOMMENDATIONS

RECOMMENDATIONS

1A. In view of declining enrollment, the relatively low number of graduates either currently employed or who expect to be employed in the health care field, the generally ambiguous nature of the HSO curriculum, and the ambiguity regarding the specific jobs for which HSO graduates are prepared and/or qualified for, the major recommendation of this report is that the HSO curriculum be completely restructured as suggested in 1B and 1C or that the shop program in Health Services Occuaptions be discontinued. We believe that there is merit to the concept of secondary level vocational education in health occupations. Also, there is and will continue to be, a high demand for highly trained and technically skilled health care workers. Therefore, it is our hope that a complete restructuring of the HSO curriculum and a shift in job preparation objectives is the option chosen.

1B. A major finding of this study with regard to the HSO curriculum was that the curriculum focused primarily on the knowledge and skills that would be required of a nursing assistant/aide. Since comprehensive high schools do similar training programs in six months and many post-secondary nurse aide programs are as short as six weeks, it would seen to be a wasteful use of educational resources to have students spend grades 10 through 12 in such a program.

Core learnings/skills which would be required of other health service providers (particular at the technician level) are not in evidence in the HSO curriculum. A four year secondary level vocational-technical program can and should prepare relatively high level technical personnel. However, given the nature of the HSO program, in order to accomplish this, a co-op type of program should be considered. Such co-op efforts will require joint planning effort and formal contracts with local health care agencies in order to provide students with certification/licensure for specific health care occupations.

1C. The current HSO curriculum is aimed at the preparation of students for "a cluster of related health services occupations", thus providing students with several occupational choices. However, in light of the ever increasing specialization within each of the health occupations, it is clear that this generalized approach is not a viable mode. The HSO curriculum is simply too general and too broad to be effective. It is recommended that each of the HSO programs at the four schools reevaluate the standard HSO curriculum with the intent of designing a curriculum which would delimit (to perhaps 3 or 4) the occupational areas the curriculum would focus on. The local vocational education advisory committee, HSO Department Heads, Guidance Department Heads and health care professionals should all have a central role in the decision with regard to the specific occupational areas in terms of the design of the curriculum.

2. It is apparent that many 8th grade students in schools which send students to the four vocational-technical schools are not aware of the HSO program. As was noted earlier in this report, 74% of all non-HSO students indicated that prior to their enrollment in the vocational-technical school, they were unaware of the existance of the HSO program. Therefore, it is recommended that a major publicity effort be initiated by the HSO Department Heads to inform parents and prospective students of the nature and function of the HSO program.

3. As was reported in several places earlier, HSO students and graduates generally have positive perceptions regarding the quality of education

in both the HSO shop program and the academic program. The one area in which the majority opinion was not strongly positive was in the laboratory component of the HSO shop. The data do not pinpoint the exact nature of the problems with the laboratory component however, it is clear that this area needs review to identify and correct problem areas.

4. It appears that large numbers of both HSO and non-HSO students believe that health service jobs are more suited to women than men. It is therefore, recommended that more effort be placed upon the dissemination of accurate and current information pertaining to occupational roles in health care fields. This effort should be concentrated at both the grade 8 (pre-choice) phase of the student's education and also during 9th grade exploratory program. There is an evident need for effective career counseling aimed at dispelling the myths and stereotypic images regarding occupational sex roles, pay and job availability that both males and females continue to hold about health care jobs.

5. Few HSO students indicated they had received post graduate job placement assistance from school personnel. Vocational-technical school guidance functions should include a greater emphasis on post-graduate job placement. Also, several problems with regard to guidance and counseling services were noted in the Graduate Follow-Up data. Some schools had particular problems with respect to HSO graduates perceptions of the quality of particular services provided by the guidance staff. Each school should take note of the problems cited in the Graduate Follow-Up data and address these problems.

6. The lack of male enrollment in HSO program continues to be a problem. It will take a major effort on the part of HSO and guidance staffs

at the respective schools to overcome this problem. It is recommended that these persons seek assistance from the Sex Equity Consultant from the Connecticut State Department of Education to identify resource material to be used in the exploratory program and in counseling students. Increased emphasis on male recruitment along the lines suggested by the State Department publication titled "Steps Towards Eliminating Program Stereotypes in Vocational Education" is strongly suggested.

APPENDIX A

SURVEY INSTRUMENTS

CONNECTICUT HEALTH SERVICES OCCUPATIONS SURVEY

A SURVEY OF GRADUATES FROM THE YEARS 1979 - 1981

INSTRUCTIONS: Please read each question carefully and write your answer in the space provided. Remember that each time we refer to your "graduation" we mean your graduation from a health services occupation program in a Connecticut Regional Vocational Technical School between 1979 and 1981. Please return the completed survey in the envelope supplied. No postage or addressing is required. Your answers are confidential. No one at your vocational-technical high school will see them.

1. What is (or was) your father's occupation? ______________________________
   (Give exact title such as electrician, teacher, physician, etc.)

2. What is (or was) your mother's occupation? ______________________________
   (Give exact title such as salesperson, teacher)

3. Which of the following factors MOST influenced your choice of HSO as your shop area? **(Check only ONE)**
   ______ Really wanted a career in the health field
   ______ HSO seemed like a good shop to be in
   ______ Assigned to HSO but was not my first choice of shop
   ______ There are lots of jobs available and other good things about health careers
   ______ I had friends in the HSO shop

4. Which of the following persons MOST influenced your choice of HSO as a shop area? **(Check only ONE)**
   ______ Parents
   ______ Friends or other students
   ______ Tech school counselor
   ______ HSO Shop Teacher
   ______ Other (Specify) ______________________

5. Since graduation from the HSO program, have you completed any additional education or training related to your health occupations education? **(You may check MORE than one)**
   ( ) None
   ( ) Vocational-technical school program
   ( ) Community college
   ( ) College or university
   ( ) In-service training
   ( ) Short courses/seminars
   ( ) Other (Please list)
   ____

6. If you are now enrolled in any school, for what occupation or profession are you preparing? (If you are not in school, indicate NONE).
   ____
   Name the occupation or profession

7. Which ONE of the following best describes your current position? **(Check only ONE)**
   ( ) Employed in a health occupations field – (List job title) ______________________
   ( ) Employed, but not in health occupations field – (List job title) ______________________
   ( ) Unemployed; am looking for work, but cannot find any
   ( ) Unemployed; am not interested in work
   ( ) I am suffering from an illness/disability
   ( ) I have full-time home or family responsibilities
   ( ) I am in the military
   ( ) I am enrolled in an education program
   ( ) Other (Specify) ______________________

( ) College or university ____________________

6. If you are now enrolled in any school, for what occupation or profession are you preparing? (If you are not in school, indicate **NONE**).

____

Name the occupation or profession

7. Which ONE of the following best describes your current position? (**Check only ONE**)
   - ( ) Employed in a health occupations field – (List job title) ____________________
   - ( ) Employed, but not in health occupations field – (List job title) ____________________
   - ( ) Unemployed; am looking for work, but cannot find any
   - ( ) Unemployed; am not interested in work
   - ( ) I am suffering from an illness/disability
   - ( ) I have full-time home or family responsibilities
   - ( ) I am in the military
   - ( ) I am enrolled in an education program
   - ( ) Other (Specify) ____________________

8. If your PRESENT JOB is UNRELATED to your HSO shop courses, check the ONE reason which most influenced your decision to take a job in another field. (Check only ONE)
   - ( ) I am a full-time student – am not employed
   - ( ) Unemployed
   - ( ) Could not find a job in the health field
   - ( ) Did not like the work in the health field
   - ( ) Salary scale in health care occupations
   - ( ) Lack of opportunities for advancement
   - ( ) General disillusionment with health career
   - ( ) Other (Specify) ____________________

Please turn the page over and answer questions on the opposite side.

9. All things considered, how do you feel about your present job? **(Check only ONE)**

( ) Very satisfied
( ) Satisfied
( ) Indifferent
( ) Unsatisfied
( ) Very Unsatisfied
( ) Not Employed

10. How well do you believe your HSO training program prepared you for a career in your chosen field? **(Check only ONE)**

( ) Very well
( ) Well
( ) Not very well
( ) Poorly

11. How did you locate your first job after graduation from your HSO program? **(Check only ONE)**

( ) Haven't located a job
( ) Friends or relatives
( ) School faculty
( ) School guidance or placement office
( ) State employment agency
( ) Want ads, direct application to employer
( ) Employer contacted my school
( ) Other (Specify)______________________

12. What health care related licenses/certification/registrations do you currently hold? **(Please list)**

______________________ ______________________
______________________ ______________________

13. We are interested in your opinion of the following parts of your HSO shop program. **(Check (✓) ONE box for each statement)**

	Excellent	Good	Fair	Poor	Not Applicable
1. Quality of the classroom instruction within the school					
2. Quality of the laboratory instruction within the school					
3. Quality of equipment and facilities within the school					
4. Appropriateness of clinical learning experiences					
5. Success of your training in preparing you adequately for your FIRST JOB					

14. Which part or parts of your HSO shop program was the **MOST useful** part of your education? **(Please list)**

____

15. Which part or parts of your HSO shop program was the **LEAST useful** part of your education? **(Please list)**

____

16. Which part or parts of the academic program (such as math, social science, English, etc.) was the **MOST useful** part of your high school program?

____

17. Which part or parts of the academic program (such as math, social science, English, etc.) was the **LEAST useful** part of your high school program?

____

5. Success of your training in preparing you adequately for your FIRST JOB					

14. Which part or parts of your HSO shop program was the **MOST** useful part of your education? **(Please list)**

15. Which part or parts of your HSO shop program was the **LEAST** useful part of your education? **(Please list)**

16. Which part or parts of the academic program (such as math, social science, English, etc.) was the **MOST useful** part of your high school program?

17. Which part or parts of the academic program (such as math, social science, English, etc.) was the **LEAST useful** part of your high school program?

18. Please rate the quality of the following in-school services which may have been available during your HSO training. **(Check (✓) ONE box for each statement)**

	Excellent	Good	Poor	Not Available	I did not seek it
1. Help in making career decisions					
2. Counseling with personal problems					
3. Counseling with school problems					
4. Help in obtaining a job after graduation					

19. What occupation do you hope to be engaged in five years from now?

Thank you for taking the time to complete this questionnaire. Place questionnaire in the self-addressed stamped envelope and mail it as soon as possible.

IN SCHOOL STUDENT SURVEY

May 1982

1. Sex: _______ Male _______ Female

2. Age: _______

3. Grade: _______ 9th _______ 10th
_______ 11th _______ 12th

4. When did you decide to go to technical school:
_______ 6th grade or earlier
_______ 7th grade
_______ 8th grade
_______ 9th grade

5A. Which vocational education (shop) program are you currently enrolled in?

____

B. What was your major reason for selecting this shop program?

____

6A. When you first selected your shop program, did you get your first choice?
_______ YES _______ NO

B. Which shop program was your first choice? _______________________________

C. Have you changed shop programs since you first enrolled?
_______ YES _______ NO

7. Which of the following persons helped or encouraged you the MOST in choosing your vocational shop program? (CHECK ONLY ONE)
_______ parents
_______ relative
_______ friends around my own age
_______ elementary/middle school teacher
_______ elementary/middle school counselor
_______ technical school counselor
_______ shop teacher in exploratory program
_______ other – please explain _______________________________

8. How important was the visit of the vocational-technical counselor to your middle school (or your first visit to the vocational-technical school) in the selection of your shop program?
_______ Important _______ Not Important _______ Didn't Attend

9A. Did you participate in a shop exploratory program?
_______ YES _______ NO

B. If YES, was the exploratory program in your current shop area the major factor in choosing your shop program?
_______ YES _______ NO

10. What occupation do you hope to be engaged in five years from now?

_______ relative
_______ friends around my own age
_______ elementary/middle school teacher
_______ elementary/middle school counselor
_______ technical school counselor
_______ shop teacher in exploratory program
_______ other – please explain _______________________________________

8. How important was the visit of the vocational-technical counselor to your middle school (or your first visit to the vocational-technical school) in the selection of your shop program?

_______ Important _______ Not Important _______ Didn't Attend

9A. Did you participate in a shop exploratory program?

_______ YES _______ NO

B. If YES, was the exploratory program in your current shop area the major factor in choosing your shop program?

_______ YES _______ NO

10. What occupation do you hope to be engaged in five years from now?

____

11. After you graduate from high school, what do you plan to do?

_______ I will seek a job in the same area as my shop training
_______ I will seek a job outside of the area of my shop training
_______ I will seek further vocational-technical training
_______ I will go to a two year community college
_______ I will go to a four year college
_______ I don't know
_______ Other – please explain _______________________________________

(PLEASE TURN THIS PAGE OVER AND ANSWER THE QUESTIONS ON THE OPPOSITE SIDE)

12. How important was your personal interview at this vocational-technical school in selecting your shop program?

______ Important ______ Not Important ______ Did not have personal interview

13. Did you receive counseling or guidance from any of the following people to help you choose your shop program? (CHECK AS MANY AS APPROPRIATE)

______ No counseling or guidance received
______ Elementary/middle school teacher
______ Elementary/middle school counselor
______ Vocational-technical school teacher
______ Vocational-technical school counselor
______ Other – please explain ______________________________

14. Is the technical school shop curriculum what you expected?

______ YES ______ NO

If NO, what is different from what you anticipated? ______________________________

15. Can you make any specific recommendations for changes, additions, or deletions in the shop curriculum?

____

INSTRUCTIONS: The questions that follow pertain to the Health Services Occupations (HSO) major in your school and to health care occupations in general. Please answer each question (16 through 20) as best you can no matter what shop you are enrolled in.

16. Did you learn about the Health Services Occupations (HSO) program prior to your enrollment in this Vocational-Technical School?

______ YES ______ NO

If YES, how did you learn about the program? ______________________________

17. During the orientation at your middle school or on your visit(s) to this Vocational-Technical School, were you ever encouraged to enroll in the Health Services Occupations program?

______ YES ______ NO

18. Please respond to the following statements about the Health Services Occupations (HSO) program in your school by rating how strongly you agree or disagree with each statement. (Circle ONE number for each statement, either 1, 2 or 3)

Agree = 1 No Opinion = 2 Disagree = 3

1	2	3	HSO programs are only for girls
1	2	3	HSO programs prepare you for worthwhile jobs
1	2	3	HSO programs prepare you for better paying jobs than other vocational majors
1	2	3	The HSO science curriculum is too difficult
1	2	3	Graduates of the HSO programs have excellent job opportunities
1	2	3	Graduates of HSO program have a good start at career advancement in the health care field

19. Please respond to the following statements about health occupations by rating how strongly you agree or disagree with each. (Circle ONE number for each statement, either 1, 2 or 3)

Agree = 1 No Opinion = 2 Disagree = 3

If YES, how did you learn about the program? ____________________

17. During the orientation at your middle school or on your visit(s) to this Vocational-Technical School, were you ever encouraged to enroll in the Health Services Occupations program?

_______ YES _______ NO

18. Please respond to the following statements about the Health Services Occupations (HSO) program in your school by rating how strongly you agree or disagree with each statement. (Circle ONE number for each statement, either 1, 2 or 3)

Agree = 1 **No Opinion = 2** **Disagree = 3**

1	2	3	HSO programs are only for girls
1	2	3	HSO programs prepare you for worthwhile jobs
1	2	3	HSO programs prepare you for better paying jobs than other vocational majors
1	2	3	The HSO science curriculum is too difficult
1	2	3	Graduates of the HSO programs have excellent job opportunities
1	2	3	Graduates of HSO program have a good start at career advancement in the health care field

19. Please respond to the following statements about health occupations by rating how strongly you agree or disagree with each. (Circle ONE number for each statement, either 1, 2 or 3)

Agree = 1 **No Opinion = 2** **Disagree = 3**

1	2	3	Women make better health care workers than men
1	2	3	Health care workers have financially secure jobs
1	2	3	Males who want to go into health care should aim for administrative jobs
1	2	3	There are great opportunities for advancement in health care jobs
1	2	3	Except for doctors and dentists, jobs in health care are low status jobs
1	2	3	Men who go into health care are not really "macho" but are the "studious type" who can't make it in the other trade areas.

0. If you had the freedom to choose any job in the area of health care, what three jobs would you prefer?

1st choice ____________________

2nd choice ____________________

3rd choice ____________________

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE

APPENDIX B

ADVISORY COMMITTEE MINUTES

HSO ADVISORY COMMITTEE MEETING MINUTES

December 14, 1981

1:00 p.m. Vinal Regional Vocational-Technical School
Middletown, Ct.

Attendance:

A. Committee Members

Ms. Lise Beaudoin - Grasso-Southeastern RVTS
Ms. Joan R. Pope - Oliver Wolcott RVTS
Ms. Dorothy M. Watt - Vinal RVTS
Ms. Joan Keegan - Platt RVTS
Ms. Gloria Robinson - CSDE
Dr. Valerie Pichanick - CSDE

B. Project Staff

Dr. Diane LaRochelle - Principal Investigator
Dr. Donald Thompson - Project Manager
Dr. Robert Gable - Senior Researcher

I. Dr. Thompson welcomed the committee and thanked them for coming. It was decided that the best time for future meetings would be Mondays about the same time (1 p.m.).

II. Dr. Thompson discussed the threefold purpose of the meeting:

1. to orient the advisory committee to the project.
2. to provide the committee with an opportunity to ask questions about the project.
3. to exchange ideas about the project as developed to date.

III. The role of the advisory committee was described as:

1. providing content expertise to the project staff, and
2. providing the project staff with feedback on questionnaires and other selected materials such as letters to participants.

IV. Gloria Robinson reviewed the thinking that generated the RFP, that is graduates of HSO programs not meeting minimum criteria on tests such as the PAAPN. However, since reading specialists have been introduced to the vocational-technical schools to help students who can't read these problems have decreased.

The committee identified sex equity as a major hurdle for HSO programs to overcome. Other problems identified by the committee are:

1. Public Relations - many students don't know that HSO programs exist.

2. Because of their "general" nature HSO programs must be sold to students.

3. HSO programs only prepare students for a few jobs that don't require higher level education.

4. SAT's seem to present a problem for HSO students.

5. Parents want to know what the difference is between nurse aide programs in local high schools and the program in the vocational-technical school.

6. There is a question as to whether HSO programs should be broad based or have a particular occupational focus.

7. Guidance people say they have a hard time "selling" the HSO programs because they don't prepare students for particular occupations.

8. Students who don't choose the HSO program as one of their three choices are being placed into the program. Included in this group are students with learning disabilities which create special problems in terms of accomplishing curriculum objectives.

V. Dr. Thompson provided the committee with an overview of the project; distributed the "Guidelines for Evaluating Vocational Instructional Material for Sex-Fairness"; and displayed a wide variety of HSO curricula mateials for committee members to review.

VI. Each member of the project staff gave a progress report on their portion of the project. Positive feedback was received from the committee.

VII. The advisory committee agreed to:

1. Send copies of their admission policies.

2. Send copies of their entire HSO curriculum (9th, 10th, 11th & 12th) for Dr. LaRochelle to review and evaluate.

3. Provide written comments and make suggests on two questionnaires. One is designed to obtain feedback from students in HSO programs and the second is designed to obtain feedback from graduates of HSO programs.

VIII. Gloria Robinson has five and ten year follow-up data on students which she offered to send to the project staff.

IX. Achievement testing presents logistical problems which still need to be worked out by Dr. Gable.

X. Advisory committee members who are also HSO Coordinators presented a brief overview of how their students are oriented to vocational school programs in general and HSO programs in particular. There are wide variations among schools.

XI. Meeting adjourned at 3:00 p.m.
The next meeting will probably be scheduled for sometime in early March.

Dr. Diane LaRochelle
Recorder

HSO Advisory Committee Meeting Minutes

April 5, 1982, 12:30 p.m.
Vinal Regional Vocational-Technical School
Middletown, Ct.

Attendance:

A. Committee Members
   Ms. Lise Beaudoin, Grasso-Southeastern RVTS
   Ms. Joan Keegan, Platt RVTS
   Ms. Dorothy Watt, Vinal RVTS
   Ms. Gloria Robinson, CSDE
   Dr. Valerie Pichanick, CSDE
   Ms. Carol Aiken, CSDE

B. Guest
   Bernie English, Guidance Department Head
   Vinal RVTS

C. Project Staff
   Dr. Diane LaRochelle, Principal Investigator
   Dr. Donald Thompson, Project Manager
   Dr. Robert Gable, Senior Researcher

I. Dr. Thompson welcomed the committee and thanked them for coming. He also provided an overview of the purpose for the meeting:

1. To review the revised questionnaire for the In-School Student Survey and Graduate Follow-Up Survey.

2. To review the methodology and projected timetable for the completion of the project.

II. Dr. Thompson gave the group a status report on the project. All of the background work for the project has been completed and the questionnaires for the two student surveys were revised to incorporate the excellent changes recommended by the advisory committee. The project staff is now ready to begin data collection.

III. Dr. LaRochelle reviewed the types of changes that were incorporated into the revised copy of the In-School Student Survey. She noted that the comments received by committee members were excellent and the questionnaire was much improved as a result of their considered input. The group was pleased with the revised form of the questionnaire.

Dr. LaRochelle indicated that the questionnaire was slated to go to press this weekend, and asked the group to look it over one last time and call in any recommended changes by Friday, April 9.

Dr. Gable reviewed the data collection procedures that would be used for this survey. HSO Department Heads will receive a package of questionnaires to distribute to their students and the guidance counselors in each of the respective schools will receive a package of questionnaires to administer to a proportionate sample of students from the other shops (non HSO). Anonymity will be preserved by having students place completed questionnaires in sealed envelopes before submitting them to a teacher or counselor. Questionnaires will be coded by school.

The HSO Directors identified some variables that would effect the results of the survey:

1. geographic location
2. the number of females admitted to each freshman class
3. the number of shop areas available to students
4. female students being counseled into non-traditional shops
5. students who go on to school for additional education aren't counted in the same way

IV. Dr. Thompson reviewed the revised form of the the Graduate Follow-Up Survey. He explained that the purpose of this questionnaire was to determine what influenced HSO graduates in their career selection, to find out how they remember their RVTS program, and to find out what careers they are currently pursuing.

The advisory committee recommended a few additional changes in both the cover letter and the questionnaire. Dr. Thompson invited the group to go over the questionnaire one more time during the week and to call in any recommended changes by Friday, April 9, since this questionnaire will also go to press this weekend.

Dr. Gable reviewed the data collection procedures that would be used. HSO graduates from the classes of 1979, 1980 and 1981 will be asked to participate in the survey. There was agreement that the response rate would be better if the request for participation was made by the HSO Directors as opposed to the project staff. However, the project staff will be responsible for all of the mailing.

HSO Directors agreed to send Dr. Thompson a sample of their letterhead stationary.

V. Dr. Pichanick asked if the data was to be analyzed in aggregate or by individual schools. According to the original proposal data was to be analyzed in aggregate. After considerable discussion the project staff agreed to look at schools individually only where there were differences.

VI. Dr. LaRochelle thanked the HSO Directors for sending in copies of their HSO curriculums. The directors indicated that they all used the objectives from the standard curriculum, but were able to meet then in a variety of ways.

The HSO Directors identified areas where differences between programs occurred:

1. Resources available
2. Field experiences
3. 9th grade exploratory shop - how it's scheduled and presented
4. Admission policy

A major problem identified by the HSO Directors was the global expectations of the HSO program.

1. There is no clearly identifiable final product.
2. There is no specific certification or licensure that results from completion of the HSO program.
3. It is difficult to differentiate the HSO program from Nurse Aide programs in hospitals and high schools.

VII. Dr. Gable asked for clarification on the Admission Policy to RVTS. The group indicated that they all use the same standard criteria, but the cut-off points for the different schools vary, as do the standards for bi-lingual students.

VIII. The Project Staff reviewed the projected timetable for the remainder of the project.

1. Collection of achievement data on students will begin now.
2. Data collection via the two questionnaires (In-School Student Survey and Graduate Follow-Up Survey) will take place mid-April to mid-May.
3. HSO Curriculum analysis - will take place mid-April through mid-May.

IX. Meeting adjourned at 3:00 p.m. The next meeting will probably be scheduled late in May.

Dr. Diane LaRochelle
Recorder

APPENDIX C

ADVISORY COMMITTEE MEMBERS AND ADDRESSES

HSO ADVISORY COMMITTEE

Project Title: A Study of the Performance and Satisfaction of Current Students and Graduates From HSO Programs in Vocational-Technical Schools.

Project Director: Dr. Diane LaRochelle

Applicant Agency: EASTCONN Regional Education Service Center
North Windham, Ct.

Funding Agency: Connecticut State Department of Education
Bureau of Vocational Program Planning and Development.

Grant Period: August 1, 1981 to June 30, 1982

Members

1. Ms. Joan Pope
   HSO Coordinator
   Oliver Wolcott Regional Vocational-Technical School
   75 Oliver Street
   Torrington, Ct. 06790

2. Ms. Lise Beaudoin
   HSO Coordinator
   Southeastern Regional Vocational-Technical School
   189 Fort Hill Road
   Groton, Ct. 06340

3. Ms. Dorothy Watt
   HSO Coordinator
   Vinal Regional Vocational-Technical School
   60 Daniels Street
   Middletown, Ct. 06457

4. Ms. Joan Keegan
   HSO Coordinator
   Platt Regional Vocational-Technical School
   600 Orange Avenue
   Milford, Ct. 06460

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APPENDIX D

PROJECT PERSONNEL

Project Personnel

The administration of the project was directed by a three member administrative team consisting of a principal investigator, a project manager and a senior researcher. Secretarial/clerical services was secured on a part-time basis. In addition to the project staff, a project advisory committee was selected by the project staff, with the advice and approval of the Bureau of Vocational Program Planning and Development. The advisory committee was comprised of persons having direct knowledge of and/or involvement in the programs under review. The advisory committee consisted of seven persons.

Dr. Diane LaRochelle served as the Principal Investigator for the project. Dr. LaRochelle provided the primary content expertise required for the review of the Health Services Occupations curriculum. Additionally, Dr. LaRochelle organized and conducted interviews and assisted in the development of the occupational role stereotype instrument and the identification of appropriate research variables. Dr. LaRochelle also provided major input in the development of the final report.

Dr. Donald Thompson served as the Project Manager and assumed the responsibility for maintaining the project budget, organizing the data collection efforts and coordinating the development and printing of the final report. Dr. Thompson also served as the principal liaison with the State Department of Education.

Dr. Robert Gable served as Senior Researcher and was responsible for the design of the occupational role stereotype instrument, the development of other questionnaires/surveys, the data processing and analysis and computer programing.

The qualifications of the three members of the administrative team include extensive experience in the areas of curriculum development, and evaluation in health career areas, third party program evaluation, test development/validation, data management and analysis and research report writing.

A brief overview of particular areas of expertise that were particularly relevant to this research effort are presented below.

Diane R. LaRochelle, Ph.D. - Principal Investigator

1. Currently Director, Graduate Nursing Program, UMASS/Amherst Division
2. Formerly Associate Dean, UCONN School of Nursing
3. Formerly Director, Nursing Management Major, UCONN School of Nursing
4. Nursing Program Accreditor, National League for Nursing
5. Formerly Chairperson, Accrediation Committee, UCONN School of Nursing
6. Formerly Chairperson, Curricula and Courses Committee, UCONN School of Nursing
7. Member of the Evaluation Council New England Hospital Assembly
8. Nursing Program Development and Management Consultant, Bay State Medical Center
9. Program Evaluator, Hartford Hospital and St. Mary's Hospital
10. Consultant, UMASS Medical Center. Development of a new graduate curriculum for the School of Nursing.
11. Research and publications include several studies dealing with career issues in nursing, counseling and guidance for prospective nurses and nursing management

Donald L. Thompson, Ed.D. - Project Manager

1. Currently Professor of Higher, Technical and Adult Education, UCONN
2. Formerly Research Associate and Research Project Director, Human Resources Research Institute, W.Va. University
3. Research Associate, Bureau of Educational Research and Service, UCONN
4. Research and Program Evaluation Consultant, Connecticut Departments of Education and Labor, Connecticut Advisory Council on Vocational and Career Education, Office of Policy Management
5. Program Development Consultant - numerous school systems
6. Program Evaluation Consultant, U.S. Office of Education
7. Licensed psychologist
8. Research and publication - 15 research articles, books, monographs. Author of 20 research reports, abstracts, technical reports
9. Organizer and Chairman, American Personnel and Guidance Association National Symposium on Career Information for the Health Professions

Robert K. Gable, Ed.D. - Senior Researcher

1. Director of the Bureau of Educational Research and Service and Professor of Measurement and Evaluation, UCONN School of Education
2. Formerly President, Northeastern Educational Research Association
3. Research and Program Evaluation Consultant, Connecticut Departments of Labor and Education
4. Program Evaluator - numerous school systems
5. Research and publication - author of 18 books, research articles, monographs. Author of over 50 research abstracts, presentations, and technical reports

APPENDIX E

NEWSPAPER ARTICLES-RE: HEALTH OCCUPATIONS

Hospitals Face Shortages of Technicians,

By DAVID H. RHINELANDER

The hospital industry, already pinched by a lack of nurses, also is facing a shortage of technicians and other allied health workers.

Hospital-based training programs in Connecticut and across the nation — the traditional source of respiratory therapists, X-ray and operating room technicians and laboratory and pharmacy workers — are not attracting enough students.

Yet the job market for these specialists is wide open, according to officials.

Attendance at hospital career day presentations in Hartford and elsewhere has fallen by almost half in the last few years. Even worse, applications for many of the courses are way down, some classes are running at less than capacity and student dropout rates approach 50 percent in some programs.

Although the declining interest in allied health careers hasn't produced a shortage of workers yet, hospital officials fear that in the future there will not be enough new workers coming into the field to replace those who retire or leave for other reasons.

Educators in the field cite many reasons for the decline. Among them:

- The number of high school graduates is decreasing because of the drop in the birth rate.
- Other jobs have opened up for women, who have always made up a sizable majority of the hospital work force.
- Long hours, low pay, night and weekend duties and a growing atmosphere of discontent within the hospital industry are turning potential recruits away.
- Although working with the sick used to have a certain pull on teenagers, jobs offering more money after shorter training, such as computer programming, now are more popular.
- High school guidance counselors are spending less time on advising about future jobs, and both students and career counselors are not aware of many of the opportunities within the health care field.

"Our applications are down 50 percent, the quality of the students is down, and we're not getting through to high school students," said Jack C. Lytle, assistant director of education at Hartford Hospital. Although the problem is not yet acute at Hartford, which runs the most extensive hospital-based training program in the state in its School of Allied Health, "the overall picture is causing us increasing concern," said Lytle, who heads the allied health program.

"Six years ago we had a long waiting list. Now we have to wait for last-minute applications and still can't be sure the class will be filled," said David P. Watson, director of the School of Respiratory Therapy at St. Francis Hospital and Medical Center. The problem is nationwide, said Watson, who is active in the national training association, although New England seems to be among the hardest-hit regions.

Hartford Hospital now has a full-time recruiter to promote its eight training programs. Depending on the program, admission requirements range from a high school diploma with a C average to three years of college. Several of Hartford Hospital's programs, as well as the training programs of a number of other hospitals including St. Francis Hospital and Medical Center, are run in conjunction with the University of Hartford or Manchester Community College.

The Hartford Hospital statistics are typical — applications for the medical technology program are down from 16 in 1976 to 48 in 1980; X-ray technicians down from 190 in 1976 to 50 in 1980; medical lab technicians, down from 1 to 59; and respiratory therapy down from 139 to 70. The hospital has some scholarship money available through its auxiliary and can provide some

Allied Health Workers

parttime jobs for students. The former nursing school classrooms and dormitory are used by the students and the hospital hires about half of its 50 to 60 graduates each year.

"I'm going out to high schools, but the students are often too busy to talk to me," said Hartford Hospital recruiter Angela Callahan. "Guidance counselors are more disciplinarians than career advisers. So I also talk to science teachers and we invite counselors here for lunch and a tour. But we are not making much progress."

Lylis said the cost of the hospital-based and hospital-affiliated programs are less than those at private colleges and universities, but even the cost difference has not helped that much. The college-based programs have somewhat stronger enrollments, although the declining population is hurting many of these institutions as well.

Both Callahan and Lylis agree that higher pay — allied health workers begin at about $12,000 a year compared to

Continued on next page

Students Attracted to

Continued from previous page

up to $18,000 for computer programmers — plus a better selling job are needed to refill the ranks of allied health workers. The hospital also is recruiting older students for some of the courses and is retraining former technicians who want to return to work.

Watson at St. Francis made the same observations.

"The respiratory therapy program isn't known in the high schools. It's a good option for students who don't want to be nurses but who want patient contact. But, truthfully, the working conditions are not that attractive in today's market," said Watson. "Our program was strong until about 1976. Now we're struggling to get qualified students."

Patricia Taylor, director of the radiologic technician program at St. Francis, said her course has only 24 applicants at the moment for 16 places and the usual February closing date for signing up has been extended until mid-March. The two-year course graduated 12 students last June, but the present

Higher- Paying Jobs Skip Hospital Careers

senior class has only five students remaining, she said.

"The only solution is talk to students, parents, guidance counselors and teachers about the programs and the need for good allied health workers. Not everyone is cut out for college," she said.

Lylis and recruiter Callahan also are trying the same approach. "We're emphasizing the plus side of working in the health field. There are jobs for those who like to work with patients and jobs for those who don't like the clinical side and have more of a scientific curiosity. We need more people in the field," Lylis said.

The state Department of Health Services also has a health careers recruitment program, which is run by Henry Miller. He reports the shortage extends throughout the allied health field from physical therapists to dental hygienists. Miller talks to school and college groups and also provides individual counseling and technical assistance to those interested in health-related careers.

The current problem with attracting technicians reminds the educators of what has already happened in nursing over the past few years. Many three-year, hospital-based "diploma" schools of nursing closed when the nursing profession pushed for a switch to four-year college training. That has reduced the number of nursing training programs nationwide and discouraged many of those people not interested in academics from entering and advancing in the profession. Nursing also is hurt because a large number of trained women have retired from active service.

Nursing directors in area hospitals report that extensive recruitment drives and retraining programs have had only limited success in enticing the thousands of nurses who are no longer in practice back to the hospitals. St. Francis has a ward closed because of its current nursing shortage. Hartford, which is experimenting with various staffing and shift patterns, has all beds open at the moment and has a fulltime nurse recruiter to keep up with its need for 600 staff nurses.

THE HARTFORD COURANT: Sunday, July 4, 1982

Youths Need Not Apply

Job Prospects Bleaker Than Ever This Year

By JOHN P. TARPEY
Courant Staff Writer

High school graduates who choose to go to work immediately after completing school have long had a tough lot. They are often unskilled, with little experience, and are usually relegated to low-paying, entry-level positions.

This year their prospects are even bleaker.

Unemployment nationwide is at the highest level since World War II. The recession has forced companies to lay off employees in record numbers. Experienced workers, many supporting families, are taking any jobs they can find.

"I've never seen unemployment this bad," said Larry Zarbo, a manager of federally funded Comprehensive Employment and Training Act youth programs for the Hartford area. "Compounding the problem for any kid coming out of school right now is that a lot of unemployed adults are competing for jobs that traditionally go to youth. Stuff as mundane as hamburger flippers at McDonald's."

Hartford's three high schools graduated 915 seniors this month, 47 percent of whom plan to attend college or get some kind of further education. Four percent are going into the military, but the largest group — 49 percent — is looking for work.

School officials say that figure usually grows when students who had counted on financial aid for college fail to qualify. Even more students are expected to lose financial aid this year, and these students end up looking for work with the rest of the graduates.

What they are finding is a market that offers few openings — and most of those call for experience or skills students haven't developed in high school. Hartford has traditionally had an abundance of clerical jobs because of the insurance and banking community, but those jobs call for skills that aren't usually acquired in high school — even in business education classes.

"I fill out applications, and they say they'll call me, but they don't," said Vanessie Carter, who graduated from Weaver High School earlier this month. "Then I call them back and they tell me they don't have anything right now."

Carter spent a month before her graduation filling out job applications at Hartford Hospital, The Travelers Insurance Cos., Aetna Life & Casualty and Connecticut General Life Insurance Co. and the Connecticut Bank & Trust Co.

Like many graduates looking for work, she took business-related courses such as typing and data processing in school. But she types only about 25 words a minute, half the speed employers are looking for.

Even Carter's work experience during high school has failed to help her. She has worked part time at a CBT branch as a filing clerk and at Hartford Hospital sterilizing medical instruments. But now that she is looking for full-time work, her former employers can't help her.

When she's not out job-hunting, she's often home, reading the want ads and watching television. After several visits to the state Labor Department's Job Service at 90 Washington Street, she believes she has exhausted all her possibilities.

Employment Situation Bleak for

Continued from Page B1

She is considering taking a temporary job at a summer camp, something she did during summers while she was in high school. It's not what she had in mind, she says, but it's work.

"I'd rather be out working and making money than sitting at home watching TV and not making money," she lamented.

Figures compiled by the National Bureau of Labor Statistics in Washington put Connecticut unemployment in April at 6.9 percent, more than two percentage points below the national average. The most recent youth unemployment figure available, for 1981, is 17.2 percent for Connecticut youths between the ages of 16 and 19. Unemployment among black youths of the same age group in the state is 29.8 percent.

In 1980, unemployment was 6.1 percent in Connecticut and 7 percent nationally. Unemployment for those between 16 and 19 in Connecticut was 17.5 percent. Employment experts expect the overall figure for 1982 to be significantly higher than the previous two years.

Such statistics are often considered conservative estimates that miss the thousands of chronically unemployed adults and youths who no longer collect unemployment benefits or register with state job-service agencies. Most employment experts think the unemployment rate for minority youth far exceeds 50 percent.

"When you have a tight economy and low unemployment, there are jobs that go crying for people," said James Tomasek, state Labor Department manager of employment and community services for the greater Hartford area. "When you've got a tight economy combined with high unemployment, you've got people that go crying for jobs."

Although Tomasek stresses that the situation is not hopeless for graduates, he says the picture is much worse than it has been in recent years.

"We still have jobs available, but only about half as many as last year," Tomasek said. "But for each job available, the kids are competing with more people with experience."

To help graduates compete, school officials have taken extra steps to prepare students for the job market. Patricia Whitaker, a guidance counselor at Weaver, took groups of seniors to the Job Service office to help them understand the workings of the employment bureaucracy.

"Just going down there can be intimidating if you don't understand how it works," she said. "We tried to give them a little jump by talking to some of the job counselors about filling out applications and interviews. They're things that may seem basic to us, but are completely new to some seniors."

Whitaker remembers going through the same process two years ago. "There was a whole wall covered with computer printouts listing jobs," she said. "This year, there are only two sheets on a bulletin board.

"I don't want to paint a depressing picture," she added, "but it is not going to be easy for these kids."

Even fast-food franchises, which have traditionally been able to offer at least part-time work to youths, are without openings. Their usually high turnover rates have decreased, and older workers seeking full-time jobs have filled their ranks.

"Maybe I can find a job, maybe I can't," one recent high school graduate said. "If I'm in bad shape a year from now, I may go into the service. That's not something I wanted to do, but I may not have much choice."

High School Graduates

"This is the time of year when we would usually take on some part-time help to fill in," said Carlos Gutierrez, manager of the Asylum Street McDonald's. "But right now I don't have anything for them, and I haven't for a while. All I can tell them is that I'm very sorry. I wish I could help. It's tough."

The situation may alter the plans of some youths and eventually swell the rolls of two-year colleges, technical schools and the military.

Before graduating from Weaver, Ruby Givens, 18, studied bookkeeping and data processing. She has a 7-month-old daughter to support, and hopes to find a job in clerical work. But repeated visits to banks and insurance companies, as well as the Job Service office, have yet to get her one.

Now she is thinking of enrolling in a secretarial school to improve her qualifications.

"I need to catch up on my skills," she said. "The training I've got just isn't good enough to get a job. And I've got a little girl I've got to think about."

Alvin Robinson, 17, also a Weaver graduate, is considering several fields, from photography to car painting to welding. Even though his range of interests is wide, he is not holding out any great hope for employment.

"Maybe I can find a job, maybe I can't," he said. "If I'm in bad shape a year from now, I may go into the service. That's not something I wanted to do, but I may not have much choice."

Whatever the graduates end up doing, their prospects aren't expected to improve soon. Economists aren't predicting unemployment to ease until the economy begins a significant recovery, which could take months.

Until then, the youths may end up taking whatever temporary work is available.

"They're just competing with too many people with experience," said Tomasek of the Labor Department. "But the situation isn't totally bleak. They just have to be persistent, and they may have to be willing to settle for a few less bucks a week than they were hoping for."

Panel Wants Elderly-Care Options

United Press International

Connecticut could be spending nearly $1 billion a year on nursing home care by 1990 unless it finds alternative housing for elderly residents, a report released last weekend states.

"Neither the average private consumer nor the government can afford to bear the costs of extended residential care for long periods of time," the Statewide Health Coordinating Council said in its report.

The number of state residents 65 or older increased by 26 percent in the 1970s. The increase will be 29 percent between 1980 and 1990, from 364,864 residents 65 or older to 471,110, the council said.

The council said that, although only 6 percent of residents 65 or older are in nursing homes, "If current patterns of use are continued, the nursing home population is projected to increase by 22 percent over the next 10 years."

The report states about 6,000 new nursing home beds will be needed by the end of this decade, which would mean an estimated $240 million in construction costs and a $578.4 million increase in nursing home operating costs between 1983 and 1990.

Medicaid costs for nursing homes would triple by 1990 from the $167.9 million spent in 1980, the council said.

The council also noted that women will be affected more than men because they continue to make up a majority of the older population. "Their long-term care needs are greater than men's, and their financial resources are fewer," according to the council.

The report, which will be turned over to legislators and other state officials, recommends the state look at expanding community services for the elderly, such as day care and group homes.

"Any expansion in the current nursing home bed supply should be undertaken only with extreme caution and clear documentation of local needs," the council said.

Htfd Courant 7/2/82

APPENDIX F

TABLES 1-9

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Table 1

Response Percentages by School for In-School Student Survey Items 1-17

Survey Item	Response[1]	Vocational-Technical School									
		Southeastern		Platt		Vinal		Wolcott		Total	
		HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO
1. Sex	M	5	81	2	74	32	86	29	96	14	84
	F	95	19	98	27	68	14	71	4	86	16
3. Grade	9	43	30	29	20	26	25	18	25	29	25
	10	21	17	25	32	22	29	33	31	26	27
	11	17	23	24	27	19	25	25	25	21	25
	12	19	30	22	21	33	21	24	24	24	23
4. When decide to go to tech. school	6		2	6	10	4	14	4	18	4	11
	7	19	9	22	35	23	21	25	39	22	26
	8	69	83	72	43	62	61	69	43	69	58
	9	12	6		12	11	4	2		5	5
6a. When you first selected, did get 1st choice	YES	81	79	94	73	75	86	67	80	81	80
6c. Changed shop program	YES	12	17	8	10	19	16	10	12	11	14
7. Encouraged most in choosing vocational shop	Parents	42	34	48	27	54	37	47	51	47	38
	Relative	7	6	10	10	4	8	4	6	7	7
	Friends	7	4	6	12	7	8	6	10	7	9
	Ele/Mid Teacher								2		1
	Ele/Mid Counselor	2			2	4	2	2		2	1
	Tech.Counselor	5				3	4	2	2	2	1
	Shop Teacher	2	19	6	15		8	2	6	3	12
	Other	23	28	25	29	21	23	33	19	26	24
	Multiple Choice	12	9	5	5	7	10	4	4	6	7

Table 1 (Continued)

Survey Item	Response[1]	Vocational-Technical School									
		Southeastern		Platt		Vinal		Wolcott		Total	
		HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO
8. Importance of 1st visit, in selection of shop	Important	73	65	68	64	67	72	67	72	69	68
	Not Important	20	26	19	29	22	22	19	20	19	24
	Didn't Attend	7	9	13	7	11	6	14	8	12	8
9a. Participate in shop exploratory program	YES	86	94	98	90	79	96	92	98	91	95
9b. Was exploratory program major factor in choice	YES	68	80	73	76	68	70	54	75	66	75
11. Plans after high school	Job in shop area	19	43	3	46	7	39	14	51	10	45
	Job outside shop area	5	4	8	3	4	4	8	2	7	3
	Further voc/tech. training	7	15	5	22	11	17		14	5	17
	Two year college	7	9	13	3	14	6	8	2	10	5
	Four year college	12		27	7	22	4	25	2	22	3
	Don't Know	18	8	17	10	21	8	19	15	19	10
	Other	14	15	5	7	7	8	10	10	8	10
	Multiple Choice	18	6	22	2	14	14	16	4	19	7
12. Importance of personal interview	Important	62	36	57	39	54	51	49	43	56	42
	Not Important	24	44	30	49	21	38	33	45	28	44
	Did not have interview	14	20	13	12	25	11	18	12	16	14

Table 1 (Continued)

		Vocational-Technical School									
		Southeastern		Platt		Vinal		Wolcott		Total	
Survey Item	Response[1]	HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO	HSO	Non-HSO
13. Receive counseling or guidance regarding shop selection	None received	51	60	62	63	50	65	69	55	60	61
	Ele/Mid Teacher		2	10		7	6	4	6	6	4
	Ele/Mid Counselor	12	6	3	5	11	13	14	12	9	9
	Voc/Tech. Teacher	9	6	10	10	11	10	2	4	8	8
	Voc/Tech.Counselor	16	17	19	7	25	17	16	16	19	15
14. Shop curriculum what you expected	YES	88	85	75	83	61	83	96	90	81	85
16. Learn about HSO prior to enrollment in voc/tech school	YES	61	39	73	21	71	13	75	28	70	26
17. Encouraged during school orientation or visit to voc/tech school to enroll in HSO	YES	42	11	47	15	33	6	57	9	47	10

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[1] Sample Size: Southeastern: HSO = 43, Non-HSO = 47
Platt: HSO = 63, Non-HSO = 41
Vinal: HSO = 28, Non-HSO = 49
Wolcott: HSO = 49, Non-HSO = 49

Table 2

Mean Entering Reading and Math Scores for Ninth Grade HSO and Non-HSO Students

	Reading HSO	 Non-HSO	 t	Math HSO	 Non-HSO	 t
Southeastern	12.4 (18)*	13.0 (182)	.82	13.6	14.1	.80
Platt	15.4 (19)	14.9 (218)	.90	14.3	14.7	.70
Vinal	13.1 (9)	13.2 (159)	.10	14.4	14.2	.24
Wolcott	14.0 (8)	13.9 (162)	.06	14.9	15.3	.42

*Numbers in parentheses represent the number of students compared.

Table 3

Mean Entering Reading and Math Scores for Ninth Grade HSO and Non-HSO Students Selecting HSO as a First Choice in Grade 8

	Reading HSO	 Non-HSO	 t	Math HSO	 Non-HSO	 t
Southeastern	12.4 (10)*	14.3 (11)	1.15	13.2	15.1	1.69
Platt	15.5 (11)	16.2 (5)	.72	13.7	13.8	.05
Vinal	13.6 (7)	13.0 (5)	.61	15.0	15.2	.16
Wolcott	15.0 (5)	14.0 (5)	.61	15.2	15.6	.22

*Numbers in parentheses represent the number of students compared.

Table 4

Mean Entering Reading and Math Scores for Total Grade Nine and HSO Students and 95% Confidence Intervals Around Grade Nine Means

	Reading			Math		
School 1	Total Grade Nine 2	95% Confidence Interval 3	HSO Grade Nine 4	Total Grade Nine 5	95% Confidence Interval 6	HSO Grade Nine 7
Southeastern	12.9	11.4-14.5	12.4	14.1	12.7-15.5	13.6
Platt	14.9	14.1-15.8	15.4	14.7	13.4-15.9	14.3
Vinal	13.2	11.1-15.4	13.1	14.2	12.6-15.9	14.4
Wolcott	13.9	12.1-15.8	14.0	15.2	13.0-17.5	14.9

Table 5

Percentage of HSO and Non-HSO Students in Achievement Tracks by Grade for Southeastern

Grade	Group	N	Track			
			High	Middle	Low	Remedial
9	HSO	18	22	50	17	11
	Non-HSO	188	26*	45	22*	7
10	HSO	11	9	55	36	
	Non-HSO	187	24*	35	28	13*
11	HSO	8	25	13	50	12
	Non-HSO	153	29*	29*	29	13*
12	HSO	8	25	37	13	25
	Non-HSO	142	17	35	35*	13

*HSO percentage lower than Non-HSO percentage (50% of the comparisons).

Table 6

Percentage of HSO and Non-HSO Students in Achievement Tracks by Grade for Platt

Grade	Group	N	Track			
			High	Middle	Low	Remedial
9	HSO	19	37	32	21	10
	Non-HSO	233	35	36*	19	10
10	HSO	18	28	39	33	
	Non-HSO	237	23	47*	30	
11	HSO	17	53	47		
	Non-HSO	168	27	42	31*	
12	HSO	16	50	44	6	
	Non-HSO	154	28	47*	25*	

*HSO percentage lower than Non-HSO percentage (38% of the comparisons).

Table 7A

Percentage of HSO and Non-HSO Students in Achievement Tracks by Grade for Vinal: Math

Grade	Group	N	High		Middle		Low	Remedial
				High-Middle		Low-Middle		
9	HSO	9	45		33		11	11
	Non-HSO	174	34		30		28*	8
10	HSO	7		29			71	
	Non-HSO	166	28*	37*		30*	5	
11	HSO	5	60		40			
	Non-HSO	151	30		33		37*	
12	HSO	10	10		70		20	
	Non-HSO	120	34*		34		32*	

*HSO percentage lower than Non-HSO percentage (50% of the comparisons).

Table 7B

Percentage of HSO and Non-HSO Students in Achievement Tracks by Grade for Vinal: English

Grade	Group	N	High		Middle		Low
				High-Middle		Low-Middle	
9	HSO	9	33	11		45	11
	Non-HSO	174	24	26*		24	26*
10	HSO	7		43			57
	Non-HSO	166	22*	25		29*	24
11	HSO	5	60		40		
	Non-HSO	151	30		32		38*
12	HSO	10	40		60		
	Non-HSO	120	38		34		28*

*HSO percentage lower than Non-HSO percentage (43% of the comparisons).

Table 8

Percentage of HSO and Non-HSO Students in Achievement Tracks by Grade for Wolcott

Grade	Group	N	Track High	 Middle	 Low
9	HSO	8	25	63	12
	Non-HSO	163	36*	49	15*
10	HSO	16	19	69	12
	Non-HSO	161	33*	53	14*
11	HSO	13	8	69	23
	Non-HSO	150	41*	49	10
12	HSO	13	31	61	8
	Non-HSO	119	43*	46	11*

*HSO percentage lower than Non-HSO percentage (58% of the comparisons).

Table 9

Response Percentages by School for the Graduates (1979-1981) Survey for Items 3-5, 7-11, 13, 18

Survey Item	Response	Vocational-Technical School				
		Southeastern	Platt	Vinal	Wolcott	Total
3. Which of the following factors MOST influenced your choice of HSO as your shop area?	Really wanted a career in the health field	10	71	75	68	73
	HSO seemed like a good shop to be in	0	14	0	4	6
	Assigned to HSO but was not my first choice of shop	0	5	13	4	6
	There are lots of jobs available and other good things about health careers	0	10	6	24	14
	I had friends in the HSO shop	0	0	6	0	1
4. Which of the following persons MOST influenced your choice of HSO as a shop area?	Parents	17	29	25	37	30
	Friends or other students	17	9	13	7	10
	Tech school counselor	0	0	0	4	1
	HSO Shop Teacher	17	10	6	0	6
	Other	50	52	56	51	53

Table 9(Continued)

		Vocational-Technical School				
Survey Item	Response	Southeastern	Platt	Vinal	Wolcott	Total
5. Since graduation from the HSO program, have you completed any additional education or training related to your health occupations education?	None	50	57	31	46	47
	Vocational-technical school program	0	5	0	0	1
	Community college	17	5	44	25	23
	College or university	17	10	0	11	9
	In-service training	0	10	0	4	4
	Short courses/seminars	0	0	0	4	1
	Other	0	5	19	7	9
	Multiple Response	16	9	6	4	7
7. Which ONE of the following best describes your current position?	Employed in a health occupations field	33	27	31	32	31
	Employed, but not in health occupations field	50	33	25	32	32
	Unemployed; am looking for work, but cannot find any	17	5	0	11	7
	Unemployed; am not interested in work	0	5	0	0	1
	I am suffering from an illness/ disability	0	0	0	4	1

Table 9 (Continued)

Survey Item	Response	Vocational-Technical School				
		Southeastern	Platt	Vinal	Wolcott	Total
7. Continued	I have full-time home or family responsibilities	0	0	13	4	4
	I am in the military	0	24	19	4	13
	I am enrolled in an education program	0	5	13	14	10
	Other					
8. If your PRESENT JOB is UNRELATED to your HSO shop courses, check the ONE reason which most influenced your decision to take a job in another field.	I am a full-time student--an not employed	0	23	13	11	14
	Unemployed	25	23	13	26	23
	Could not find a job in the health field	25	15	0	16	14
	Did not like the work in the health field	0	23	38	16	21
	Salary scale in health care occupations	0	0	0	0	0
	Lack of opportunities for advancement	0	0	0	0	0
	General disillusionment with health career	0	8	0	0	2
	Other	50	8	38	32	27

Table 9(Continued)

		Vocational-Technical School				
Survey Item	Response	Southeastern	Platt	Vinal	Wolcott	Total
9. All things considered, how do you feel about your present job?	Very satisfied	o	26	20	11	16
	Satisfied	50	37	60	21	37
	Indifferent	33	5	13	25	18
	Unsatisfied	0	0	0	7	3
	Very Unsatisfied	0	16	0	0	4
	Not Employed	17	16	7	36	22
10. How well do you believe your HSO training program prepared you for a career in your chosen field?	Very well	67	30	38	35	37
	Well	33	45	38	54	46
	Not very well	0	15	19	0	9
	Poorly	0	10	6	12	9
11. How did you locate your first job after graduation from your HSO program?	Haven't located a job	0	21	0	12	11
	Friends or relatives	0	26	27	23	23
	School faculty	0	11	0	4	5
	School guidance or placement office	0	5	0	0	2
	State employment agency	0	5	0	4	3
	Want ads, direct application to employer	83	21	13	50	36
	Employer contact by school	17	5	7	0	5
	Other	0	5	53	8	17

Table 9 (Continued)

Survey Item	Response	Vocational-Technical School				
		Southeastern	Platt	Vinal	Wolcott	Total
13.1 Quality of the classroom instruction within the school	Excellent	83	71	44	43	55
	Good	17	29	38	50	38
	Fair	0	0	19	7	7
	Poor	0	0	0	0	0
	Not Applicable	0	0	0	0	0
13.2 Quality of the laboratory instruction within the school	Excellent	50	43	0	7	20
	Good	50	19	6	43	28
	Fair	0	24	63	14	27
	Poor	0	10	19	25	17
	Not Applicable	0	5	13	10	9
13.3 Quality of equipment and facilities within the school	Excellent	0	19	6	18	14
	Good	83	48	25	50	47
	Fair	17	19	38	29	29
	Poor	0	14	31	4	13
	Not Applicable	0	0	0	0	0

Table 9 (Continued)

Survey Item	Response	Vocational-Technical School				
		Southeastern	Platt	Vinal	Wolcott	Total
13.4 Appropriateness of clinical learning experiences	Excellent	83	52	20	39	43
	Good	17	38	33	54	41
	Fair	0	10	33	7	13
	Poor	0	0	13	0	3
	Not Applicable	0	0	0	0	0
13.5 Success of your training in preparing you adequately for your FIRST JOB	Excellent	50	29	19	21	25
	Good	33	19	31	54	37
	Fair	0	14	25	7	13
	Poor	0	14	0	4	6
	Not Applicable	17	24	25	14	20
18.1 Help in making career decisions	Excellent	67	29	6	32	28
	Good	17	43	31	43	38
	Poor	0	14	38	18	20
	Not Available	0	0	6	0	1
	I did not seek it	17	14	19	7	13

Table 9 (Continued)

Survey Item	Response	Vocational-Technical School				
		Southeastern	Platt	Vinal	Wolcott	Total
18.2 Counseling with personal problems	Excellent	50	33	13	21	25
	Good	33	19	13	54	32
	Poor	0	10	38	11	16
	Not Available	0	0	6	0	1
	I did not seek it	17	38	31	14	25
18.3 Counseling with school problems	Excellent	50	29	13	21	24
	Good	50	24	31	64	44
	Poor	0	19	44	7	18
	Not Available	0	0	0	0	0
	I did not seek it	0	27	13	7	14
18.4 Help in obtaining a job after graduation	Excellent	0	14	0	0	4
	Good	33	10	6	32	20
	Poor	0	24	44	25	27
	Not Available	17	5	6	0	4
	I did not seek it	50	48	44	43	45

NOTE: Percentages may equal slightly more/less than 100% due to rounding.
Sample Size: Total: N = 72
Southeastern: N = 6
Platt: N = 21
Vinal: N = 17
Wolcott: N = 28